ARIS SUMMARY SHEET

District Geologist, Smithers | Off Confidential: 92.09.09

ASSESSMENT REPORT 21647 | MINING DIVISION: Liard

PROPERTY:	Kutcho Creek			
LOCATION:	LAT	58 12 00	LONG	128 22 00
	UTM	09 6450941	537227	
	NTS	104I01W		
CLAIM(S):	Jeff 115,Jess 1,PY 71			
OPERATOR(S):	Homestake Min.			
AUTHOR(S):	Holbek, P.			
REPORT YEAR:	1991, 47 Pages			
COMMODITIES SEARCHED FOR:	Copper,Zinc,Silver			
KEYWORDS:	Triassic,Kutcho Formation,Schists,Tuffs			
WORK DONE:	Geochemical			
	ROCK 3 sample(s) ;ME			
	SOIL 142 sample(s) ;ME			
	Map(s) - 2; Scale(s) - 1:5000			
RELATED REPORTS:	06373,07433,07437,07577,07599,08273,08381,08395,09657			
MINFILE:	104I 060			

1991 SOIL GEOCHEMISTRY REPORT

on the

KUTCHO 91 - FAR EAST & - FAR WEST CLAIM GROUPS

KUTCHO CREEK AREA, NORTHWESTERN B.C.

Liard Mining Division

NTS: 104I/1

Latitude: 58 12'N Longitude: 128 22'

Owned and Operated by :

Homestake Canada Ltd.
1000-700 West Pender Street
Vancouver, B.C. V6C 1G8

Report by:

Peter Holbek

September 5, 1991

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SUMMARY

The Kutcho 91 Far West and Far East claim groups are part of the Kutcho Creek property which is located in the Liard Mining Division, approximately 100km east of Dease Lake. The property covers approximately 120 square kilometres of the Kutcho Formation and hosts the Kutcho Creek volcanogenic massive sulphide deposits. The Kutcho massive sulphide deposits consist of three sulphide lenses that lie along a gently plunging 3.5km trend. The easternmost lens is the largest of the three and contains open pit mineable reserves of 13.9 million tonnes grading 1.75% Cu, 2.47% Zn, 29g/t Ag and 0.34g/t Au.

Exploration has been conducted in the property area since the early 1970's. In recent years, exploration has moved away from the known deposits and begun to evaluate prospective stratigraphy in other areas. This report describes two soil geochemical orientation surveys conducted on the extreme northeast and southwest areas of the property.

Previous soil surveys have determined that standard soil sampling procedures are suitable on most parts of the property but that extreme variations in the type and depth of overburden greatly influence the nature of the geochemical response and, therefore, areas selected for geochemical surveys should be investigated prior to commencing a large survey.

Closely spaced soil samples on lines which crossed the strike extension of altered and weakly mineralized stratigraphy, in the northeastern area of the property, failed to produce a coherent geochemical response that would indicate suitability of geochemical surveys to define potential drill targets. The lack of a significant geochemical response in this area is attributed to the relatively low levels of base metal enrichment within the altered rocks and to a thin clay horizon that occurs at the base of the relatively shallow overburden. The potential for base and associated metals to be enriched along strike exists and widely spaced soil lines could effectively test that potential.

Anomalous geochemical responses on soil lines in the southwestern property area indicate the presence of mineralized stratigraphy in this area. Much of the overburden in this area is shallow and consists of normal soil profiles except for low lying areas, where organic-rich soils

which overlie clay-rich glacial till of unknown depth have muted geochemical responses. This grid area should be extended to the east and west and followed by a detailed EM geophysical survey.

1. INTRODUCTION

1.1 Location and Access

The Kutcho Creek property is located within the Liard Mining Division, NTS 104I/1, approximately 100 km east of Dease Lake, in northwest British Columbia (Figure 1.1). Geodetic coordinates are 58° 12' N and 128° 22' W. Access to the property is by fixed-wing aircraft from Smithers, Dease Lake or Watson Lake to the 1100m gravel airstrip located beside Kutcho Creek. The property is connected to the airstrip by an 8km long road; however, the large size of the property requires a helicopter for efficient exploration.

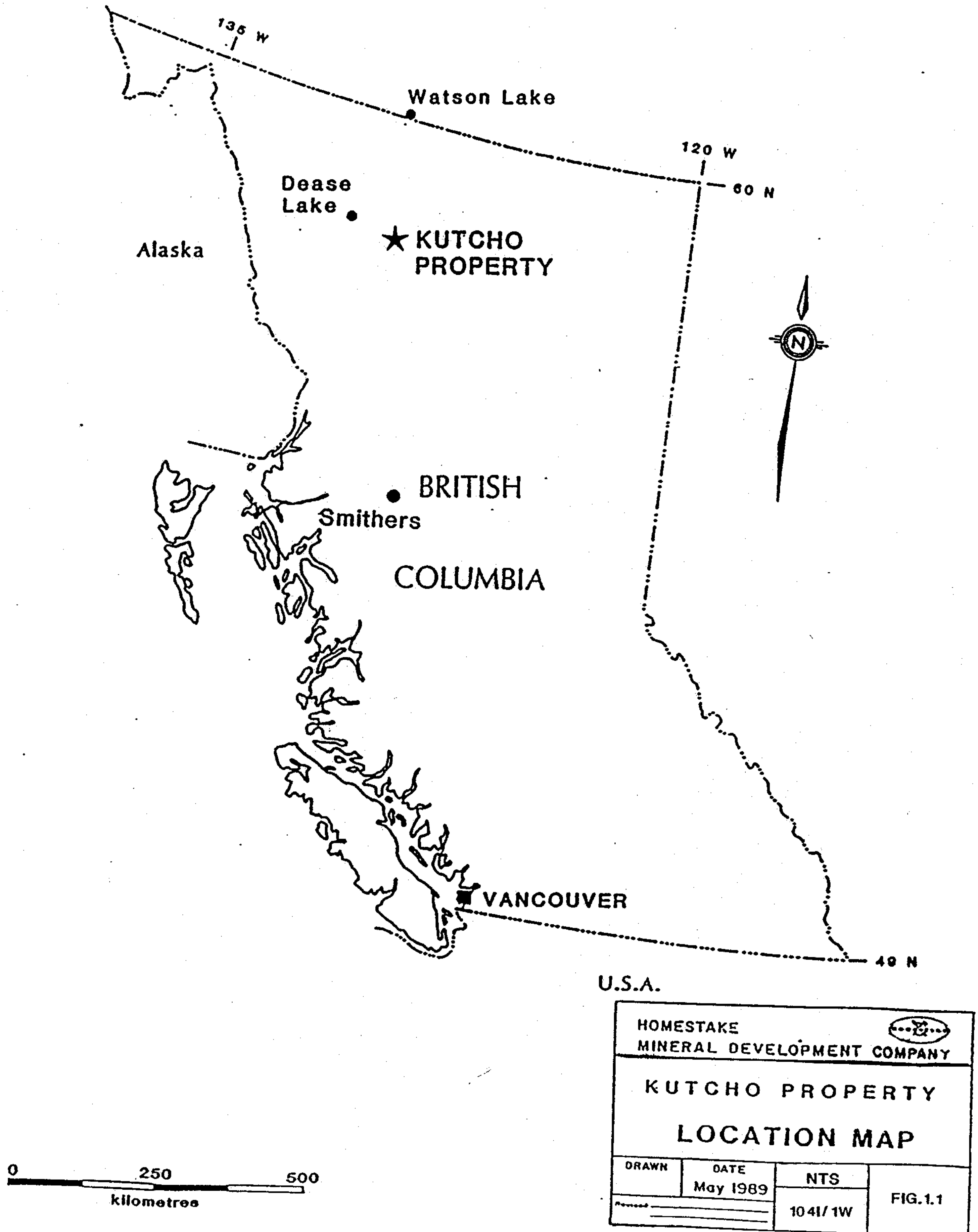
1.2 Climate and Physiography

Located within the Cassiar Mountains, on the divide between Arctic and Pacific watersheds, the area is moderately rugged with elevations ranging from 1400m to 2200m. Most of the area is alpine, with treeline at approximately 1500m. Snow cover can persist for nine months of the year. Structural fabric and two periods of glaciation have produced an intersecting pattern of east-west and north-south ridges. Major valleys are often filled with a deep layer of till.

1.3 Property and History

The Kutcho property is comprised of 595 units in 205 claims and covers an area of about 120 square kilometres. Claims are partitioned into six claim groups and a few non-grouped claims. The property encloses claims held by Sumac Mines Ltd. and includes ground which contains the Kutcho Creek polymetallic volcanogenic massive sulphide deposits. Claim data are listed in Appendix III.

Various portions of the property have been held and worked by different companies in the past. The most significant exploration was carried out by Imperial Oil Ltd. (Esso Minerals Canada) and Sumac Mines Ltd. who, independently but co-operatively, explored the area and delineated three massive sulphide lenses between 1973 and 1981.



135 W
Watson Lake
120 W
60 N
Dease Lake
KUTCHO PROPERTY
Alaska
N
BRITISH
Smithers
COLUMBIA
VANCOUVER
49 N
U.S.A.
0
250
500
kilometres
HOMESTAKE
MINERAL DEVELOPMENT COMPANY
KUTCHO PROPERTY
LOCATION MAP
DRAWN
DATE
May 1989
NTS
104I/1W
FIG.1.1

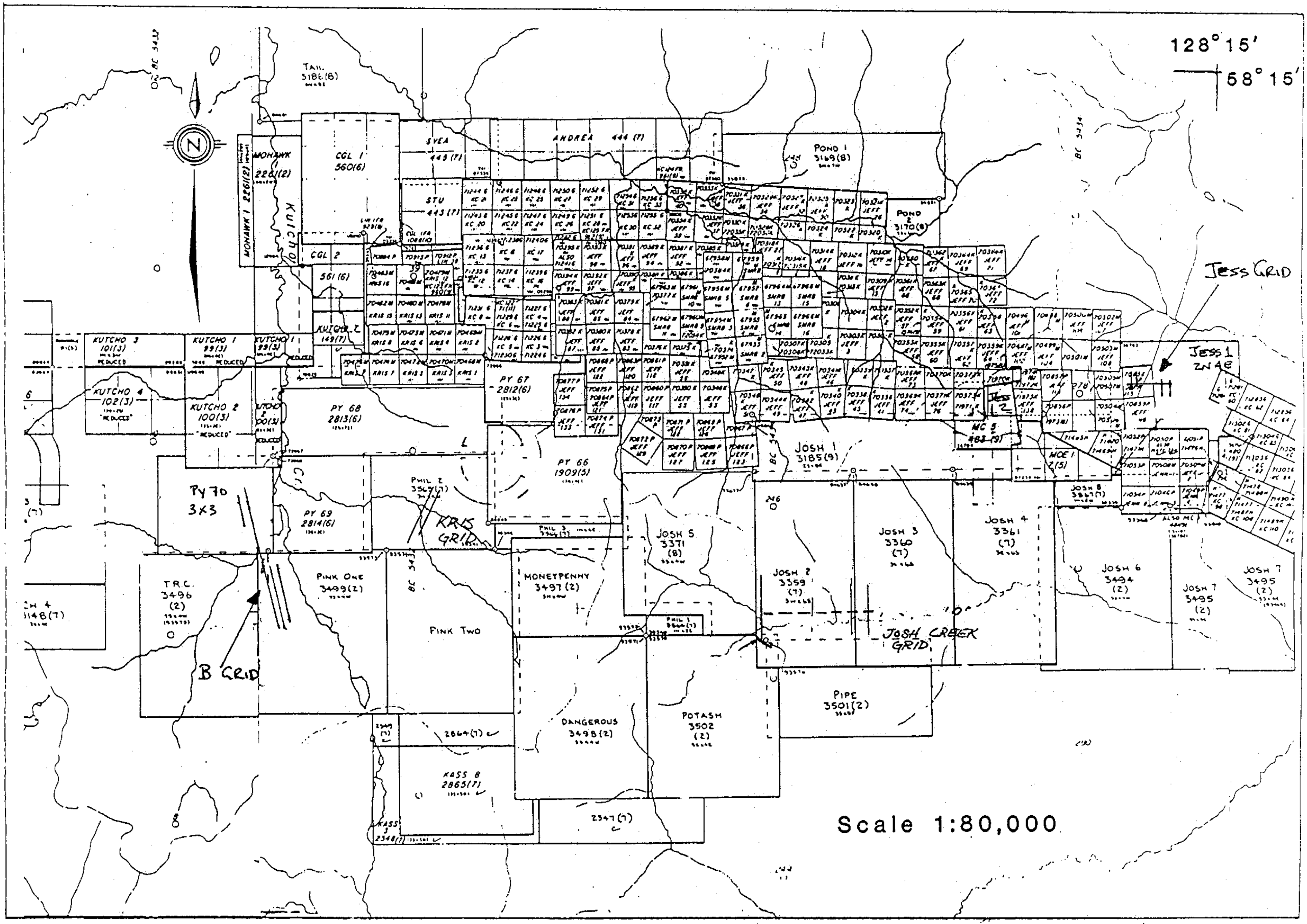


Figure 1.2 Claim Map

Regional scale exploration was re-initiated by Esso Minerals in 1984. Geological mapping suggested that altered felsic volcanics immediately to the south of the property were stratigraphically equivalent to rocks hosting the Kutcho deposits. A Questor airborne MKVII INPUT EM and Magnetic survey flown in November 1985 identified a number of conductors within areas of favourable geology south of the existing claims. Additional claims were staked and systematic evaluation of the airborne conductors, consisting of geological mapping, ground geophysics, and geochemical surveys, was undertaken.

Esso Minerals Canada sold its Kutcho property to Homestake Mining (Canada) Limited in early 1989. Homestake subsequently sold a 60% interest in the property to American Reserve Mining Corp.

1.4 Current Work

Soil geochemical surveys have been used successfully in previous exploration of the Kutcho property, but past work has also demonstrated that dramatic changes in the nature of the overburden on various parts of the property have a profound influence on the quality and usefulness of geochemical data. Consequently, investigation of the overburden character and geochemical orientation surveys should be performed prior to conducting a soil sampling program within new or unsurveyed areas. The 1991 soil geochemical program was conducted in two areas on the northeastern and southwestern edges of the property. The surveys were designed to evaluate the overburden and test the effectiveness of standard soil sampling techniques in these areas. A total of three days were spent collecting samples in the two areas between July 3 and July 30, 1991.

On the Jess grid, on the northeastern edge of the property, 58 soil samples were collected on four lines at 15m spaced intervals over the strike extension of weakly altered "mine sequence" stratigraphy. Overburden in this area is relatively thin, seldom exceeding 1.5m in depth, but commonly contains a 10 to 20cm thick basal clay layer in the western grid area.

The B Grid, located near the southwest corner of the property, was extended northwards across the PY 71 claim. A total of eighty-four soil samples were collected at 25m stations along 2.1 line-kilometres of grid. Line spacing was 200m. Overburden/soil type was carefully investigated and shown to have a significant impact on the interpretation of soil geochemical anomalies. In general, the B Grid area is suitable for conventional soil surveys.

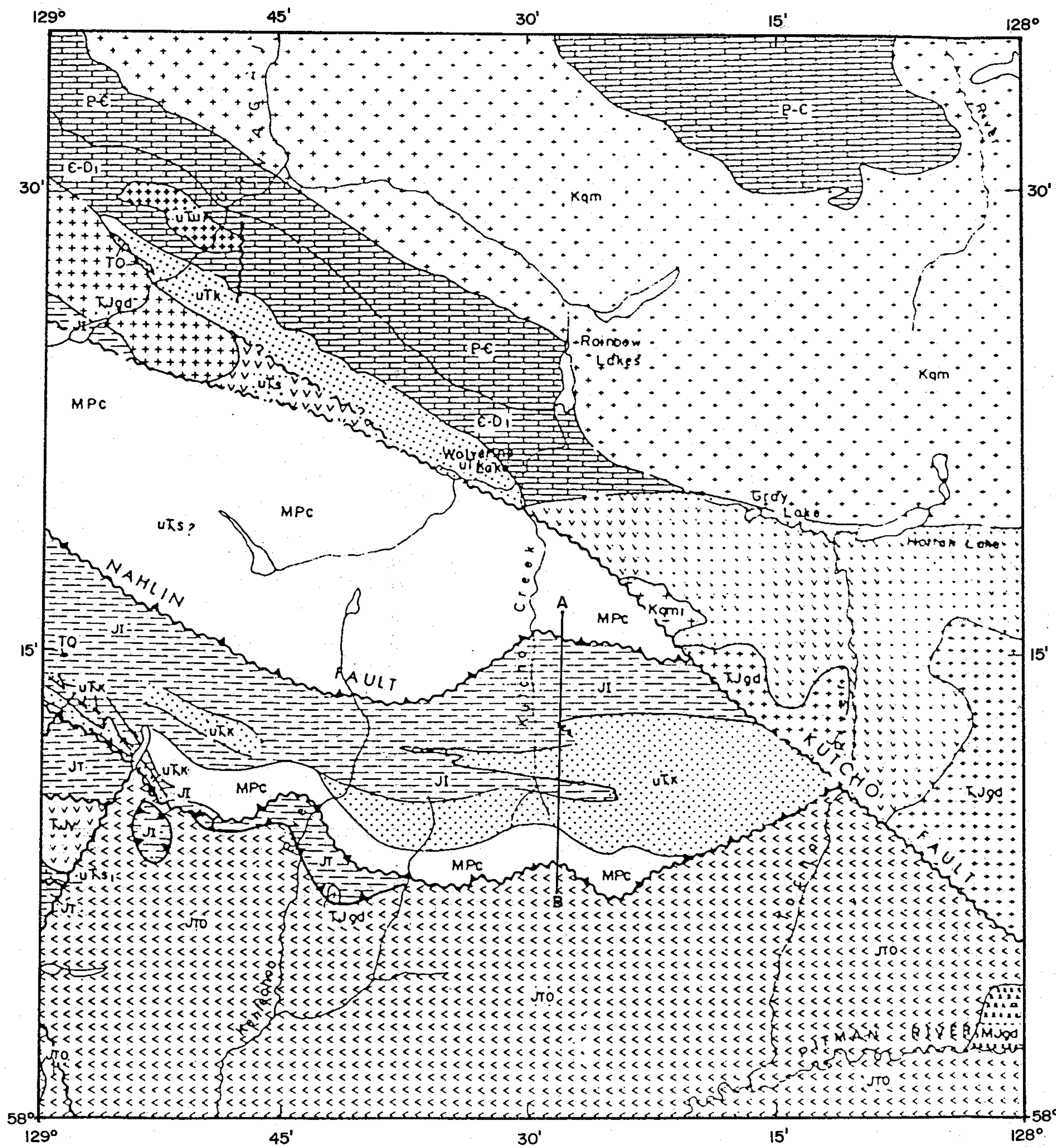
2.0 GEOLOGY

2.1 Regional Geology

The Kutcho property lies within the King Salmon Allochthon, a narrow belt of Triassic island arc volcanics and Jurassic sediments sandwiched between two northerly dipping thrust faults (Fig. 2.1). Penetrative foliation and axial planes of the major folds are parallel to these bounding faults. The belt of volcanic rocks is thickest in the area where it hosts volcanogenic massive sulphide deposits, due in part to primary deposition, but also to stratigraphic repetition by folding and thrusting. Major folds are delineated by the Sinwa Limestone and the contact between Kutcho Formation volcanic rocks and Inklin Formation argillite.

Volcanogenic mineralization of the Kutcho deposits occurs at the contact between footwall lapilli tuffs and hanging wall quartz and quartz-feldspar crystal tuffs. The main sulphide bearing horizon is marked by extensive hydrothermal alteration and the presence of thinly bedded ash tuffs, the latter indicating a temporary hiatus in volcanic activity. This sulphide horizon is geochemically, and often visually, recognizable over a strike length of 8 km.

The coarsest grained pyroclastic rocks of the Kutcho Formation occur in the vicinity of the known sulphide deposits and become noticeably finer grained towards the south and west. The major center of volcanism is postulated to be northeast of the Kutcho sulphide lens, although subordinate centers may exist elsewhere on the property.



After Gabrielse 1978

Legend for Figure

Stratified Rocks

JURASSIC
MIDDLE JURASSIC (mainly?)

JTO: "TOODOGGONE VOLCANICS": Mauve and green andesitic and dicitic volcanics; conglomerate, siltstone, shale

LOWER JURASSIC (mainly Pliensbachian)

JI JT: INKLIN FORMATION: Greywacke, slate conglomerate (age range uncertain), locally includes

TAKWAHONI FORMATION: Greywacke, siltstone, argillite, conglomerate

TRIASSIC AND JURASSIC
UPPER TRIASSIC AND LOWER JURASSIC

TJv: Andesitic green and maroon weathering volcanics

UPPER TRIASSIC

uTs: STUHINI FORMATION: Augite porphyry, coarse-bladed feldspar porphyry; minor sedimentary rocks

uTsf: SINWA FORMATION: Felid limestone; minor calcareous shale

uTk: "KUTCHO FORMATION": Quartz-eye sericite schist, chlorite schist, breccia, conglomerate

MISSISSIPPIAN TO PERMIAN

MPc: CACHE CREEK GROUP: Chert, shale, limestone, ultramafics, gabbro, diorite, basic volcanics

MPs: SYLVESTER GROUP: Chert, slate, limestone, ultramafics, gabbro, diorite, basic volcanics; lower part includes chert arenite and chert-pebble conglomerate

CAMBRIAN TO DEVONIAN

C-D: Limestone, dolomite, sandstone, siltstone, shale; C-D1, mainly black, carbonaceous phyllite

Intrusive Granitic Rocks

MID-CRETACEOUS (mainly)

Kqm: CASSIAR BATHOLITH: Quartz monzonite, minor granodiorite and diorite; locally foliated or megacrystic near contact; abundant metasedimentary inclusions near Eagle River; age uncertain;
Kqm1: Kqm2 in part dioritic

HOMESTAKE CANADA LTD.			
Regional Geology			
DRAWN	DATE	NTS 104I	Fig. 2.1
Revised			

2.2 Property Geology

Stratigraphy of the property has been described by Bridge et. al. (1984) and Thorstad and Wheeler (1986) and will only be briefly reviewed here. The stratigraphy is best understood in the vicinity of the known sulphide deposits where relatively good bedrock exposure is supplemented by a large amount of drill core. In the southern part of the property, stratigraphy is largely inferred as outcrop exposure is insufficient to interpret fold geometry. A generalized plan of the property geology is shown in Figure 2.2 and a stratigraphic interpretation in Figure 2.3.

The lowest rocks exposed in the stratigraphic sequence are thinly interlayered (bedded?) basalt, basaltic tuffs and wackes, and rhyolitic ash tuff to lapilli tuff (units 4 and 5 on Fig. 2.2) Thickness of this sequence is unknown but is likely in the order of 1,000m. The above sequence is overlain by feldspar crystal tuffs (FXTF) which are thickest in the vicinity of the deposit area and pinch out both to the east and west. The feldspar crystal tuffs are overlain by the "mine sequence" which consists of footwall lapilli (LLTF) and lapilli-crystal tuffs (LSD), pyritic ash tuffs (PAT) and massive sulphides (MSSF), and hanging wall quartz crystal tuffs (QFXT). The quartz crystal tuffs appear to be truncated to the east by a mafic unit (MTGB, GABR) that appears to be a thin intrusive-extrusive complex. To the west of the known deposits the mine sequence is overlain by the tuff-argillite unit (TAU) which is composed of interbedded mafic tuffs, wackes and black sediments. The Kutcho Formation is capped by a conglomerate, consisting entirely of volcanic fragments, and the Sinwa Limestone.

Rocks in the southern property area appear to be finer grained equivalents of the "mine sequence" and adjacent units. Compilation of geology, geochemistry and geophysics demonstrates that most of the favourable target areas lie along four linear trends, including the most northerly one which hosts the known sulphide deposits. Structural interpretation suggests that the four trends are structural repetition of a single mineralized horizon.

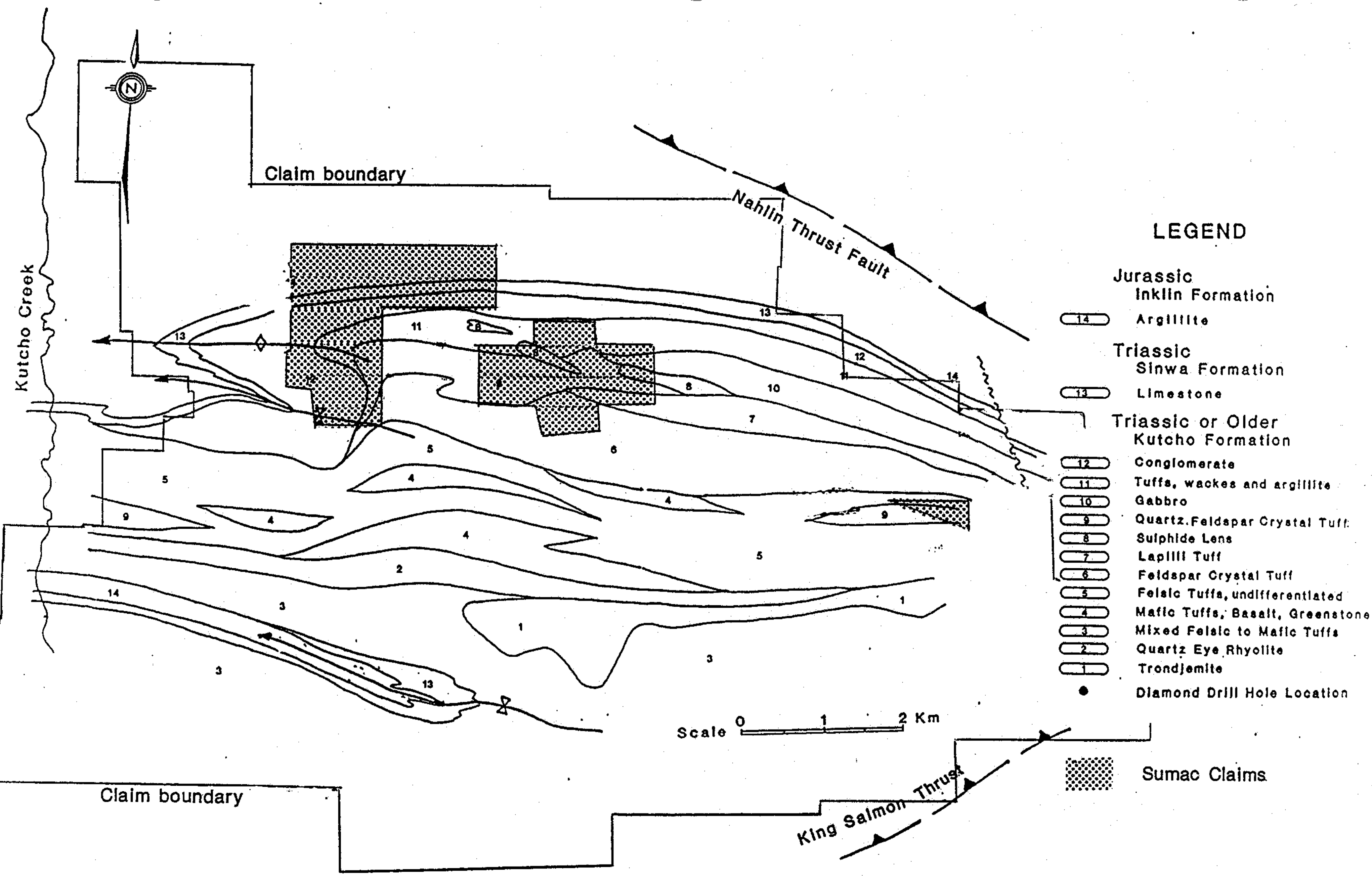
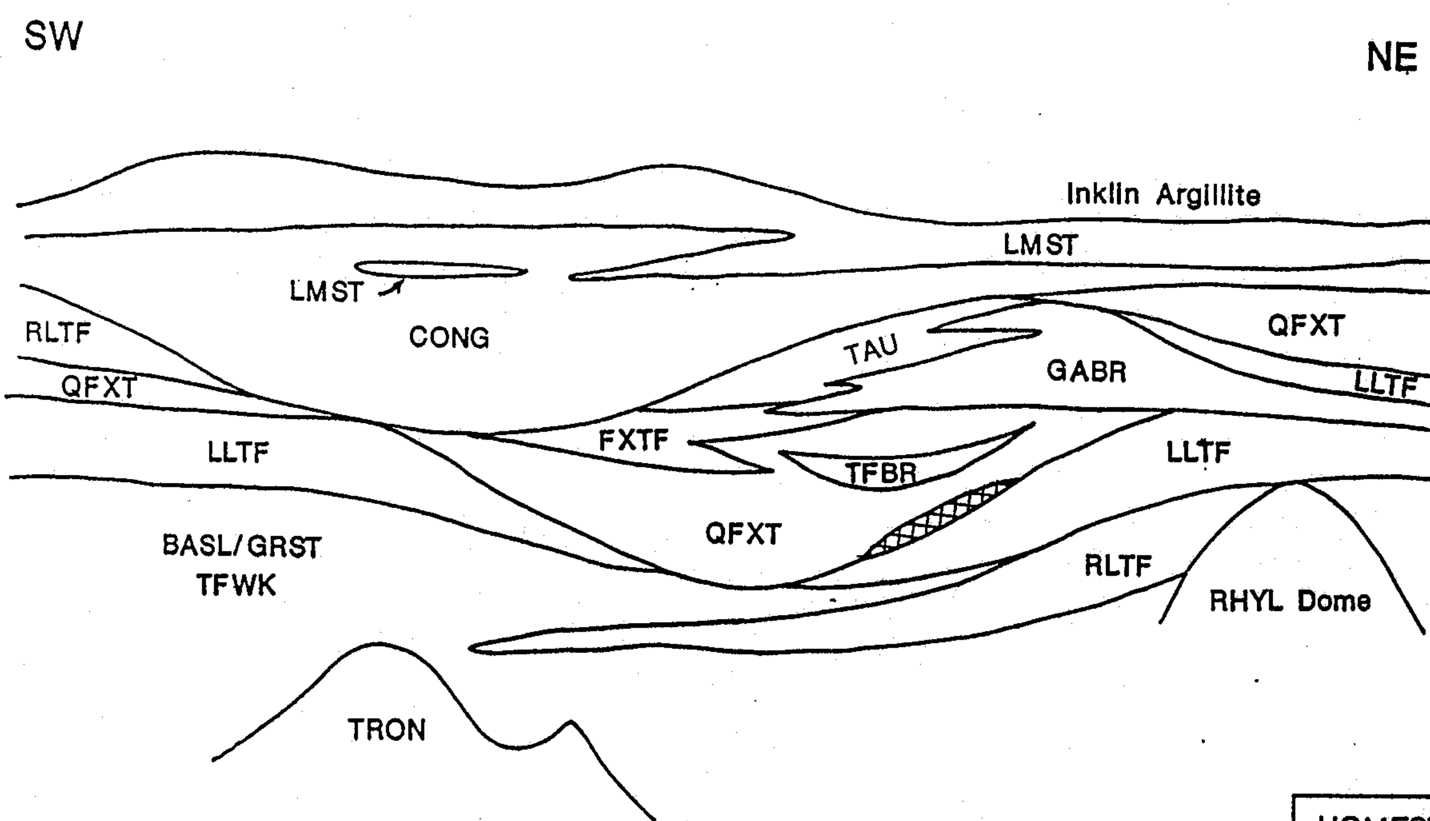


Figure 2.2 Generalized Geology of the Kutcho Creek Deposit Area.



INKLIN FORMATION:

Inklin Argillite

SINWA FORMATION:

LMST	Sinwa Limestone

KUTCHO FORMATION: Sedimentary rocks and Metagabbro

CONG	Volcanic Conglomerate
TAU	Tuff Argillite Unit

KUTCHO FORMATION: Volcanic Rocks

TFBR	Tuff Breccia	
QFXT	Quartz Feldspar Crystal Tuff	ORE SEQUENCE
LLTF	Felsic Lapilli Tuff	ORE SEQUENCE
FXTF	Feldspar Crystal Tuff	
RHYL	Massive Rhyolite and Rhyolite Breccia	
RLTF	Mixed Felsic Rocks: Tuffs, Flows and derived sediments	
TFWK	Mafic Tuff Wacke	
GRST	Mafic Volcanic Rocks (undifferentiated)	
BASL	Mafic Flows	

Intrusive Rocks:

TRON	Trondhjemite
GABR	Gabbro

Sulphide Deposit

HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

SCHEMATIC SECTION SHOWING INTERPRETED KUTCHO FORMATION STRATIGRAPHY

DRAWN	DATE	NTS	
MDM	03/90	104I/1W	FIG.2.3

Revised

VERTICAL EXAGGERATION 10X

2.3 Surficial Geology

Depth and type of overburden is extremely variable on the property. Thick till deposits, kame terraces and eskers are common in the valleys or at lower elevations. In the south-eastern half of the property bedrock exposure is restricted to stream beds and narrow ridges. Topography of the bedrock surface is difficult to predict. In general overburden depths varied between 2 and 20m; however, in a few drill holes the depth of overburden was in excess of 60m, and appeared to be related to overburden filled stream channels.

Soil development is generally poor, consisting of 10 to 40cm of organic-rich material overlying clay-rich boulder till. The water table is at or near surface in most areas.

3.0 GEOCHEMISTRY

3.1 Methods

Soil samples were collected on 15m stations on the Jess Grid and on 25m stations on the B grid. Sample lines were chained and flagged. Soil samples were taken from the B horizon, when present, at depths between 10 and 60cm using a soil mattock. At approximately every tenth sample site, a larger hole was dug (to bedrock if possible) to investigate the soil type and development. Sample depth, soil colour, character and moisture content was recorded at every station. Four samples were duplicates of previous sampling and give an idea of within site sample variance. All samples were placed in standard kraft bags and air dried before shipment.

Analyses were performed by Acme Analytical Labs and Bondar Clegg and Co. Ltd. by Induction Coupled Plasma methods. Samples were sieved to -80 mesh and a 0.5g subsample was digested in hot aqua regia (HNO3+HCl). The digestion is only partial for elements which reside in silicate, and some other minerals.

Of the 31 elements analyzed, 14 are deemed insignificant due to a combination of high detection limits, low background values and partial digestion. Analytical results for the remaining elements which consist of: Mo, Cu, Pb, Zn, Ag, As, Co, Ni, Cr, Mn, Fe, Ca, Mg, Al, P, La, and Ba; were evaluated using elementary statistics and correlation coefficients. Sample locations and values for copper and zinc are plotted on Figures 3.1 and 3.2.

3.2 Description of Results

Basic statistics are given in Table 3.1 and are similar to past surveys (Holbek, 1990) except that median values for Cu, Zn, Ag, Mo, and Ca are slightly higher than previous surveys, while median values for Mg, Cr, Co and Ni are slightly lower. These differences reflect the relative proportions of the surveys within anomalous or "mineralized" areas and a change in bedrock composition. The current survey area (B Grid) is predominately underlain by felsic volcanic and sedimentary rocks whereas the previous survey areas are predominately underlain by interlayered mafic and felsic volcaniclastic rocks.

Distribution of copper and zinc values are shown on histograms in Figure 3.3 and display bimodal populations, presumably related to altered and unaltered rocks. Threshold values selected to discriminate between the two populations are 70 and 150ppm for copper and zinc, respectively. These values are slightly higher than the previous surveys for the reasons discussed above. On the basis of these threshold values, there are anomalous values but no coherent anomalous areas on the Jess Grid (Fig. 3.1). A one to two sample wide linear anomaly across all four lines was anticipated on the Jess Grid. Overall, the values of the Jess Grid are low relative to other areas of similar alteration and soil development.

Results on the B Grid (Fig. 3.2) contain several areas of anomalous copper and zinc, which can be generally described as a 425m wide zone of anomalous Cu, Zn, Ag, and Pb with narrow intervening zones of sub-anomalous values. The below threshold values within the broader anomalous zone generally occur in

TABLE 3.1. Elementary Statistics of Soil Geochemical Data, Kutcho Creek, B Grid.

Variable:	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm
Number of Samples Selected:	84	84	84	84	84	84	84
Minimum:	1.000	8.000	2.000	19.000	0.100	2.000	1.000
Maximum:	12.000	302.000	21.000	891.000	2.100	105.000	36.000
Range:	11.000	294.000	19.000	872.000	2.000	103.000	35.000
Mean:	2.107	60.512	8.667	141.595	0.287	51.476	13.679
Median:	2.000	44.000	8.000	109.000	0.200	47.000	13.000
Variance:	3.167	2928.226	15.532	11970.860	0.064	607.559	38.218
Standard Deviation:	1.780	54.113	3.941	109.411	0.252	24.649	6.182
Standard Error:	0.194	5.904	0.430	11.938	0.027	2.689	0.675
Coefficient of Variation (%):	84.457	89.426	45.473	77.271	87.844	47.884	45.195
Coefficient of Skewness:	3.349	2.445	0.578	4.317	4.694	0.220	1.094
Coefficient of Kurtosis:	16.252	9.888	2.938	27.689	32.683	2.224	5.153

Variable:	Mn ppm	Fe %	Mg %	Ca %	Al %	As ppm	Ba ppm
Number of Samples Selected:	84	84	84	84	84	84	84
Minimum:	60.00	0.630	0.050	0.030	0.570	2.000	15.00
Maximum:	3275.00	9.210	1.590	4.790	4.640	43.000	502.00
Range:	3215.00	8.580	1.540	4.760	4.070	41.000	487.00
Mean:	834.45	4.363	0.761	0.999	2.298	8.726	148.46
Median:	669.00	4.080	0.740	0.650	2.130	7.000	137.00
Variance:	326100.5	2.143	0.127	0.905	0.694	54.389	5480.08
Standard Deviation:	571.05	1.464	0.356	0.951	0.833	7.375	74.02
Standard Error:	62.30	0.160	0.039	0.104	0.091	0.805	8.07
Coefficient of Variation (%):	68.43	33.554	46.801	95.258	36.258	84.515	49.86
Coefficient of Skewness:	1.81	0.320	0.121	1.391	0.687	2.716	1.80
Coefficient of Kurtosis:	6.94	3.719	2.325	4.918	3.681	11.608	8.50

Variable:	Sr ppm	La ppm	P %	Cr ppm	V ppm	Cd ppm
Number of Samples Selected:	84	84	84	84	84	84
Minimum:	4.000	5.000	0.010	11.000	10.000	0.200
Maximum:	333.000	97.000	0.321	159.000	110.000	7.500
Range:	329.000	92.000	0.311	148.000	100.000	7.300
Mean:	66.286	20.702	0.078	59.964	59.905	0.750
Median:	47.000	15.000	0.064	56.000	59.000	0.500
Variance:	3780.871	302.209	0.002	732.296	479.539	0.846
Standard Deviation:	61.489	17.384	0.050	27.061	21.898	0.920
Standard Error:	6.709	1.897	0.005	2.953	2.389	0.100
Coefficient of Variation (%):	92.763	83.972	63.869	45.128	36.555	122.660
Coefficient of Skewness:	1.796	2.286	2.071	0.669	0.106	4.958
Coefficient of Kurtosis:	6.696	8.601	9.372	4.023	2.764	35.213

gullies, swamps and areas of glacial-fluvial outwash, where sampled material is less likely to reflect bedrock composition. The northern boundary of the anomalous area coincides with the volcanic-sedimentary contact as reflected in the lithology of the coarse material within the soil pits.

Examination of element correlations and map symbol plots reveals that Cu and Zn are the best indicators of rocks with potential for hosting volcanogenic massive sulphide deposits. Other elements that are associated with VMS mineralization, and that show strong correlation to Cu and Zn within soils include Mn, Ba, Ag, Pb, Mo and As. However, these elements have different dispersion characteristics, low levels of enrichment or contrast, and are more strongly influenced by bedrock composition and soil type so that the relationship between anomalous soil response and mineralization is less direct.

Comparison of duplicate sample sites (Fig. 3.2) suggests that significant variation can be encountered within the same sample site. However, although variances in excess of 20% occur, it is suspected that this amount of variation would not significantly change the overall morphology of the anomalous zones.

3.3 Discussion of Results

The lack of a significant soil anomaly on the Jess grid is most likely due to the low level of base metal enrichment within the altered rocks which underlie the survey lines and not to excessive overburden cover and/or poor soil development. However, the thin basal clay layer observed on the western grid lines may contribute to the overall weak geochemical response. It is possible that the rocks are better mineralized along strike and soil surveys are likely to be the most effective means to locate these areas of stronger mineralization.

Both the size and contrast of the anomalous area on the northern extension of the B grid, relative to the previous survey, indicate that the rocks which underlie this area are more likely to be associated with economic volcanogenic mineralization than are those rocks underlying anomalous areas further to the south. The location of an anomalous area immediately below (stratigraphically) the argillite and limestone of the Sinwa Formation suggests that this zone is a continuation of the Kris anomaly located 3.0km to the east (Holbek, 1990) and substantially upgrades this target area. The proximity of the geochemical anomaly to argillaceous rocks will require careful geophysical surveys to define drill targets.

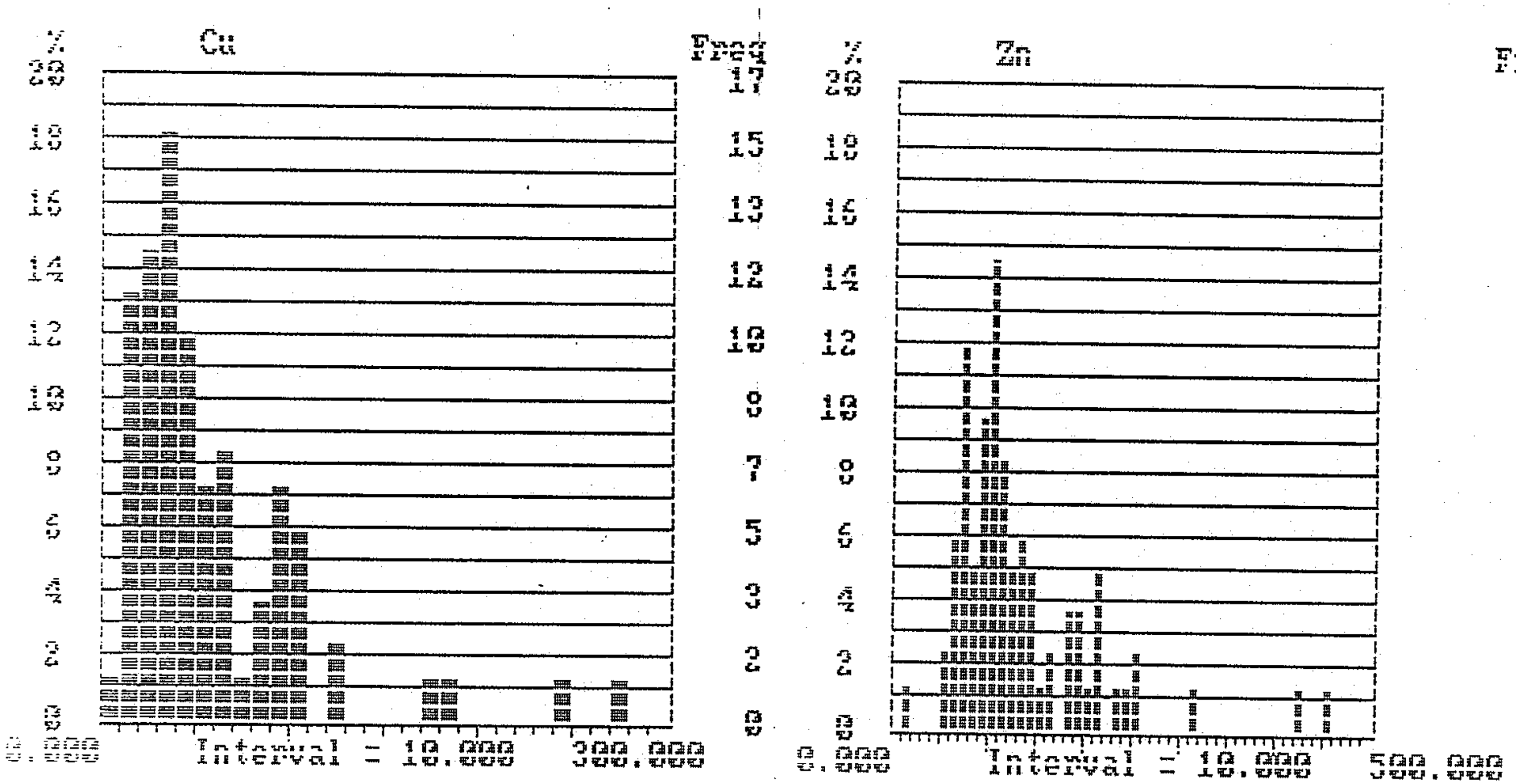


Figure 3.3

Histogram for copper and zinc, Kutcho B grid.

	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn
Mo	1.000 (84)	-0.008 (84)	0.395 (84)	0.356 (84)	-0.148 (84)	-0.196 (84)	-0.087 (84)	-0.065 (84)
Cu		1.000 (84)	0.090 (84)	0.312 (84)	0.627 (84)	0.372 (84)	0.343 (84)	0.537 (84)
Pb			1.000 (84)	0.318 (84)	-0.052 (84)	0.030 (84)	0.217 (84)	0.110 (84)
Zn				1.000 (84)	0.007 (84)	-0.001 (84)	0.237 (84)	0.235 (84)
Ag					1.000 (84)	0.280 (84)	0.113 (84)	0.443 (84)
Ni						1.000 (84)	0.598 (84)	0.350 (84)
Co							1.000 (84)	0.578 (84)
Mn								1.000 (84)

Figure 3.4
Correlation Matrix for Kutcho B grid soil data

	Fe	As	Sr	Cd	V	Ca	P	La	Cr	Mg	Ba
Mo	0.193 (84)	-0.106 (84)	-0.302 (84)	-0.011 (84)	0.134 (84)	-0.285 (84)	-0.213 (84)	0.019 (84)	0.050 (84)	-0.080 (84)	-0.148 (84)
Cu	0.090 (84)	0.017 (84)	0.367 (84)	0.530 (84)	-0.338 (84)	0.532 (84)	0.650 (84)	0.764 (84)	-0.118 (84)	-0.062 (84)	0.388 (84)
Pb	0.503 (84)	0.225 (84)	-0.164 (84)	-0.038 (84)	0.276 (84)	-0.273 (84)	-0.221 (84)	-0.033 (84)	0.189 (84)	-0.076 (84)	-0.266 (84)
Zn	0.279 (84)	0.099 (84)	0.138 (84)	0.206 (84)	0.040 (84)	0.154 (84)	0.057 (84)	0.143 (84)	-0.017 (84)	0.090 (84)	0.028 (84)
Ag	-0.124 (84)	0.080 (84)	0.653 (84)	0.778 (84)	-0.399 (84)	0.612 (84)	0.551 (84)	0.551 (84)	-0.217 (84)	-0.152 (84)	0.271 (84)
Ni	0.325 (84)	0.347 (84)	0.284 (84)	0.091 (84)	0.019 (84)	0.245 (84)	0.319 (84)	0.267 (84)	0.695 (84)	0.524 (84)	0.290 (84)
Co	0.480 (84)	0.194 (84)	0.184 (84)	0.083 (84)	0.233 (84)	0.130 (84)	0.230 (84)	0.080 (84)	0.528 (84)	0.524 (84)	0.286 (84)
Mn	0.122 (84)	-0.063 (84)	0.401 (84)	0.568 (84)	-0.143 (84)	0.565 (84)	0.675 (84)	0.500 (84)	0.111 (84)	0.105 (84)	0.551 (84)
Fe	1.000 (84)	0.229 (84)	-0.317 (84)	-0.231 (84)	0.555 (84)	-0.360 (84)	-0.114 (84)	-0.031 (84)	0.518 (84)	0.296 (84)	-0.074 (84)
As		1.000 (84)	0.289 (84)	-0.066 (84)	-0.019 (84)	0.112 (84)	-0.091 (84)	-0.037 (84)	0.210 (84)	0.079 (84)	-0.129 (84)
Sr			1.000 (84)	0.692 (84)	-0.530 (84)	0.849 (84)	0.462 (84)	0.342 (84)	-0.211 (84)	-0.105 (84)	0.282 (84)
Cd				1.000 (84)	-0.366 (84)	0.683 (84)	0.502 (84)	0.459 (84)	-0.301 (84)	-0.240 (84)	0.283 (84)
V					1.000 (84)	-0.593 (84)	-0.424 (84)	-0.452 (84)	0.556 (84)	0.419 (84)	-0.220 (84)
Ca						1.000 (84)	0.742 (84)	0.535 (84)	-0.257 (84)	-0.169 (84)	0.494 (84)
P							1.000 (84)	0.716 (84)	-0.078 (84)	-0.091 (84)	0.582 (84)
La								1.000 (84)	-0.215 (84)	-0.314 (84)	0.540 (84)
Cr									1.000 (84)	0.696 (84)	-0.021 (84)
Mg										1.000 (84)	0.011 (84)
Ba											1.000 (84)

Figure 3.4 con't

Correlation Matrix for Kutcho B grid soil data

4.0 CONCLUSIONS AND RECOMMENDATIONS

Two areas were tested for the suitability of soil geochemical surveys to locate areas of base metal enriched volcanic stratigraphy associated with volcanogenic massive sulphide deposits. Both areas are proximal to bedrock exposures and overburden depths are generally in the order of 30 to 120cm, suggesting suitability of conventional soil surveys. Local variations in type and depth of overburden do occur and can have a dramatic effect on the interpretation of geochemical results, particularly anomaly shape, and therefore the extra time and cost involved in recording soil characteristics and examining overburden profiles is cost-effective.

Close spaced soil sampling on the Jess grid was designed to determine if the altered "mine sequence" rocks in this area could be traced below cover. The lack of a significant soil response in this area is more likely due to the low level of base metal enrichment within the altered bedrock than to overburden depth or character. However, a thin clay layer was noted at depth in some soil pits which, if widespread, could obscure the soil geochemical response. Wide spaced grid lines are recommended to further evaluate this area.

A 425m wide zone of anomalous soils on the B grid suggests significant base metal enrichment in the underlying sericite schists and felsic volcanic rocks. The stratigraphic position of this anomaly correlates with a significant drill intersection 3km to the east and together with the presence of sulphide-rich outcrop in the grid area upgrades this target area. The grid should be extended to the east and west and followed by detailed EM geophysical surveys.

REFERENCES

Bridge, D.A., Marr, J.M., Hashimoto, K., Obara, M., Suzuki, R., 1983. Geology of the Kutcho Creek Volcanogenic Massive Sulphide Deposits, Northern British Columbia. C.I.M. Spec. Vol. 37, pp. 115-128.

Thorstad, L.E. and Gabrielse, H., 1986. The Upper Triassic Kutcho Formation Cassiar Mountains, North-Central British Columbia. Geol. Survey of Can. Paper 86-16.

Holbek, P.M., 1989. 1988 Geophysical and Geochemical Report on the Kutcho Claim Groups 89A and 89B. B.C.M.E.M.P.R Assessment Report.

Holbek, P.M., 1990. 1990 Geological and Geochemical Report on the Josh Claim Group, Kutcho Creek Area, Northwestern B.C. B.C.M.E.M.P.R. Assessment Report.

APPENDIX I

STATEMENT OF COSTS

LABOUR - July 2&3 and July 30, 1991		
P. Holbek - 3 days @ 270/day	$ 810.00	
A. Ross - 3 days @ 180/day	540.00	
		$ 1,350.00
FOOD AND ACCOMMODATION		
6 man days @ $50/day		300.00
EQUIPMENT RENTAL		
Computer Hardware & Software		100.00
GEOCHEMICAL ANALYSIS		
58 soil samples @ 8.75 (Bondar Clegg)	$ 507.50	
84 soil samples @ 6.15 (Acme Analytical)	516.60	
3 Whole rock analyses @ 7.00	21.00	
Freight	75.00	
		1,120.10
TRANSPORTATION		
Canadian Airlines	$ 450.00	
Watson Lake Flying Services	1,271.00	
Frontier Helicopters - Bell 206		
1.5 hours @ 765 (incl. fuel)	1,150.00	
		2,871.00
Report Preparation		300.00
TOTAL		$ 6,041.00

STATEMENT OF QUALIFICATIONS

I, Peter Holbek, DO HEREBY CERTIFY THAT:

1) I am a project geologist presently employed by Homestake Mineral Development Company located at 1000 - 700 West Pender Street, Vancouver, B.C. V6C 1G8.

2) I graduated from the University of British Columbia with a B.Sc. (Hons.) in geology in 1980 and an M.Sc. in geology in 1988.

3) I have actively practiced my profession in North America since 1975.

4) The work described herein was done by me or under my direct supervision.

DATED THIS 5 DAY OF September ,1991 AT VANCOUVER, B.C.

Peter Holbek

APPENDIX III

KUTCHO CLAIM DATA

KUTCHO Sep 11,1991 (158 cls.= 5134.5 hec.)

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER	GROUP DATE	MINING DIV'N	NTS	WORK APP'D
TAIL	222378	Aug 14,1984	Aug 14,1993	500.	20			LIARD	104I1W	
JESS 1	225803	Oct 08,1990	Oct 08,1994	200.	8	Kcho91 FarEast	Sep 09,1991	LIARD	104I/1E	$2,400.00
JESS 2	225804	Oct 09,1990	Oct 09,1994	100.	4	Kcho91 FarEast	Sep 09,1991	LIARD	104I/1W	$1,200.00
CGL 1	221758	Jun 26,1978	Jun 26,1995	300.	12	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$4,800.00
ANDREA	221729	Jul 27,1977	Jul 27,1995	350.	14	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$5,600.00
SVEA	221730	Jul 27,1977	Jul 27,1995	150.	6	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$2,400.00
JEFF 064 FR.	222121	Aug 04,1981	Aug 04,1995	12.5	1	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
JEFF 113 FR.	222119	Aug 04,1981	Aug 04,1995	12.5	1	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
JEFF 114 FR.	222120	Aug 04,1981	Aug 04,1995	12.5	1	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
POND 001	222379	Aug 14,1984	Aug 14,1995	350.	14	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$5,600.00
POND 002	222380	Aug 14,1984	Aug 14,1995	100.	4	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$1,600.00
JEFF 137	228046	Aug 20,1974	Aug 20,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
JEFF 138	228047	Aug 20,1974	Aug 20,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
JEFF 002	227717	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 004	227719	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 005	227720	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 006	227721	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 007	227722	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 009	227723	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 01	227716	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 013	227724	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 014	227725	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 015	227726	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 016	227727	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 017	227728	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 018	227729	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 019	227730	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 020	227731	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 021	227732	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 022	227733	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 024	227734	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 025	227735	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 026	227736	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 027	227737	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 028	227738	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 029	227739	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 03	227718	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 030	227740	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 031	227741	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 032	227742	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 033	227743	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 034	227744	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 035	227745	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 036	227746	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 037	226647	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 038	227748	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 039	227749	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 040	227750	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 053	227763	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 054	227764	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 055	227765	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 056	227766	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 057	227767	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 058	227768	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$600.00
JEFF 065	227775	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER	GROUP DATE	MINING DIV'N	NTS	WORK APP'D
JENN 003	227875	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 004	227876	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 005	227877	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 006	227878	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 007	227879	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 008	227880	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 009	227881	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 135	228044	Aug 20,1974	Aug 20,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$800.00
JEFF 136	228045	Aug 20,1974	Aug 20,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$800.00
JEFF 041	227751	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 042	227752	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 043	227753	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 044	227754	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 045	227755	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 046	227756	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 047	227757	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 048	227758	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 049	227759	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 050	227760	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$600.00
JEFF 051	227761	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$600.00
JEFF 052	227762	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$600.00
JEFF 059	227769	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 060	227770	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$800.00
JEFF 061	227771	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 062	227772	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$800.00
JEFF 063	227773	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,2990	LIARD	104IW	$1,000.00
JEFF 064	227774	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 067	227777	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 068	227778	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 069	227779	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 070	227780	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 071	227781	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 072	227782	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 073	227783	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$800.00
JEFF 074	227784	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$800.00
JEFF 075	227785	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$800.00
JEFF 076	227786	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$800.00
JEFF 077	227787	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$800.00
JEFF 078	227788	Aug 27,1973	Aug 27,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$1,000.00
JEFF 123	227860	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 124	227861	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	82M4	$1,000.00
JEFF 125	227862	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 126	227863	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 127	227864	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 128	227865	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 129	227866	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00
JEFF 130	227867	Nov 13,1973	Nov 13,1996	21.	1	Kutcho90 East	Sep 06,1990	LIARD	104IW	$1,000.00

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER	GROUP DATE	MINING DIV'N	NTS	WORK APP'D
JEFF 066	227776	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 079	227789	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 080	227790	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 081	227791	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 082	227792	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 083	227793	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 084	227794	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 085	227795	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 086	227796	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 087	227797	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 088	227798	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 089	227799	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 090	227800	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 091	227801	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 092	227802	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$800.00
JEFF 093	227803	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 094	227804	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 North	Oct 19,1990	LIARD	104IW	$400.00
JEFF 095	227805	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 096	227806	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 097	227807	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 098	227808	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$400.00
JEFF 099	227809	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 100	227810	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
REX 1 FR.	228056	Aug 24,1984	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$400.00
REX 2 FR.	228057	Aug 27,1973	Aug 27,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
REX 3 FR.	228058	Aug 27,1974	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$400.00
REX 4 FR.	228059	Aug 27,1974	Aug 27,1995	10.5	1	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$400.00
JEFF 057 FR.	222015	Sep 05,1980	Sep 05,1995	12.5	1	Kutcho90 North	Oct 19,1990	LIARD	104I1W	$400.00
JEFF 101	227826	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 102	227827	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 103	227828	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 104	227829	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 105	227830	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 106	227831	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 107	227832	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 108	227833	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 109	227834	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 110	227835	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 111	227836	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 112	227837	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 001	227838	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JENN 002	227839	Sep 07,1973	Sep 07,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 113	227850	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 114	227851	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 115	227852	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 116	227853	Nov 13,1973	Nov 13,1995	21.	1	Kcho91 FarEast	Sep 09,1991	LIARD	104IW	$800.00
JEFF 117	227854	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 118	227855	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104I1W	$600.00
JEFF 119	227856	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 120	227857	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 121	227858	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 122	227859	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 131	227868	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 132	227869	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 133	227870	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00
JEFF 134	227871	Nov 13,1973	Nov 13,1995	21.	1	Kutcho90 West	Oct 19,1990	LIARD	104IW	$800.00

CLAIM	REC No.	RECORD DATE	EXPIRY DATE	HECTR	UN	GROUP NUMBER	GROUP DATE	MINING DIV'N	NTS	WORK APP'D
KRIS 001	227811	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 002	227812	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 003	227813	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 004	227814	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 005	227815	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 006	227816	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 007	227817	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 008	227818	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 009	227819	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 011	227820	Sep 07,1973	Sep 07,1993	25.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 013	227822	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 015	227824	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 016	227825	Sep 07,1973	Sep 07,1993	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	
KRIS 012	227821	Sep 07,1973	Sep 07,1994	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104IW	$600.00
KRIS 014	227823	Sep 07,1973	Sep 07,1994	21.	1	Kcho91 FarWest	Sep 09,1991	LIARD	104IW	$600.00
PY 71	225770	Sep 14,1990	Sep 14,1994	225.	9	Kcho91 FarWest	Sep 09,1991	LIARD	104I/1W	$2,700.00
ZIGGY	224578	Feb 03,1990	Feb 03,1995	450.	18	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$5,400.00
DANGEROUS	222459	Feb 07,1986	Feb 07,1995	400.	16	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$12,800.00
JOSH 6	222455	Feb 07,1986	Feb 07,1995	500.	20	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$16,000.00
JOSH 7	222456	Feb 07,1986	Feb 07,1995	500.	20	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$16,000.00
MONEY PENNY	222458	Feb 07,1986	Feb 07,1995	300.	12	Kutcho90 West	Oct 19,1990	LIARD	104I1W	$7,200.00
PINK ONE	222460	Feb 07,1986	Feb 07,1995	500.	20	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	$16,000.00
PINK TWO	222461	Feb 07,1986	Feb 07,1995	500.	20	Kutcho90 West	Oct 19,1990	LIARD	104I1W	$16,000.00
POTASH	222463	Feb 07,1986	Feb 07,1995	400.	16	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$12,800.00
T.R.C.	222457	Feb 07,1986	Feb 07,1995	375.	15	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	$12,000.00
MOE 1	221629	May 12,1975	May 12,1995	150.	6	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$4,800.00
PY 66	222101	May 15,1981	May 15,1995	300.	12	Kutcho90 West	Oct 19,1990	LIARD	104I1W	
PY 67	222295	Jun 21,1983	Jun 21,1995	150.	6	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	$3,600.00
PY 68	222296	Jun 21,1983	Jun 21,1995	350.	14	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	$8,400.00
PY 69	222297	Jun 21,1983	Jun 21,1995	225.	9	Kcho91 FarWest	Sep 09,1991	LIARD	104I1W	$7,200.00
CGL 2	221759	Jun 26,1978	Jun 26,1995	200.	8			LIARD	104I1W	$6,400.00
JOSH 8	3567	Jul 07,1986	Jul 07,1995	50.	2	Kcho91 FarEast	Sep 09,1991	LIARD	104I1W	$800.00
PHIL 1	222474	Jul 07,1986	Jul 07,1995	50.	2	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$1,200.00
PHIL 2	222475	Jul 07,1986	Jul 07,1995	300.	12	Kutcho90 West	Oct 19,1990	LIARD	104I1W	$9,600.00
PHIL 3	222476	Jul 07,1986	Jul 07,1995	100.	4	Kutcho90 West	Oct 19,1990	LIARD	104I1W	$3,200.00
JOSH 2	222429	Jul 17,1985	Jul 17,1995	450.	18	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$14,400.00
STU	221728	Jul 27,1977	Jul 27,1995	150.	6			LIARD	104I1W	$4,800.00
JOSH 5	222439	Aug 19,1985	Aug 19,1995	500.	20	Kutcho90 South	Oct 30,1990	LIARD	104I1W	$16,000.00
LIN 001 FR.	221863	Aug 20,1979	Aug 20,1995	10.5	1			LIARD	104I1W	$800.00
CGL No. 1 Fr.	221907	Oct 20,1979	Oct 20,1995	12.5	1			LIARD	104I1W	$1,000.00
LIN 011	227872	Nov 13,1973	Nov 13,1995	21.	1			LIARD	104I1W	$400.00
LIN 039	227873	Nov 13,1973	Nov 13,1995	21.	1			LIARD	104IW	$800.00
LIN 040	227874	Nov 13,1973	Nov 13,1995	21.	1			LIARD	104IW	$800.00
TBWBT	224577	Feb 03,1990	Feb 03,1996	150.	6	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$3,000.00
JOSH 3	222430	Jul 17,1985	Jul 17,1996	450.	18	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$18,000.00
JOSH 4	222431	Jul 17,1985	Jul 17,1996	450.	18	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$18,000.00
JOSH 1	222385	Sep 07,1984	Sep 07,1996	400.	16	Kutcho90 East	Sep 06,1990	LIARD	104I1W	$19,200.00

Kutcho/Kutcho South

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH

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Mineral Tenure Act
SECTION 28

NOTICE TO GROUP

INDICATE TYPE OF TITLE Mineral
(Mineral or Placer)*

I, Karen A. McNair (Name)
1000 - 700 West Pender Street (Address)
Vancouver, B.C.
684-2345 (Telephone) V6C 1G8 (Postal Code)
Valid subsisting FMC No. 117959
FMC Code MCNAKA

Agent for Homestake Canada Ltd. (Name)
1000 - 700 West Pender Street (Address)
Vancouver, B.C.
684-2345 (Telephone) V6C 1G8 (Postal Code)
Valid subsisting FMC No. 112180
FMC Code HOMCAL

request that the following mineral titles on map number(s) 104I/01W in the Liard Mining Division(s) be grouped under the group name Kutcho 91 Far East.

A copy of the mineral/placer titles reference map ☒ or a legal survey approved by the Surveyor General ☐ is attached. (check appropriate box)

Name of Claim	No. of Units	Title Number
Jess 1	8	225803
Jess 2	4	225804
Josh 6	20	222455
Josh 7	20	222456
Josh 8	2	(3567) *
Moe 1	6	221629
Jeff 101	1	227826
Jeff 102	1	227827
Jeff 103	1	227828
Jeff 104	1	227829
Jeff 105	1	227830
Jeff 106	1	227831
Jeff 107	1	227832
Jeff 108	1	227833
Jeff 109	1	227834
Jeff 110	1	227835
Jeff 111	1	227836
Jeff 112	1	227837
Jeff 113	1	227850
Jeff 113 Fr.	1	222119

Name of Claim	No. of Units	Title Number
Jeff 114	1	227851
Jeff 114 Fr.	1	222120
Jeff 115	1	227852
Jeff 116	1	227853
Jeff 64 Fr.	1	222121
Jeff 137	1	228046
Jeff 138	1	228047
Jenn 1	1	227838
Jenn 2	1	227839
Jenn 3	1	227875
Jenn 4	1	227876
Jenn 5	1	227877
Jenn 6	1	227878
Jenn 7	1	227879
Jenn 8	1	227880
Jenn 9	1	227881

Notice to Group approved (Yes/No) ....

Total number of units 90

(Signature of Gold Commissioner)

(Signature of Applicant)

(Date)

MTL 114 REV. 91/02

*NOTE: Mineral claim(s) and lease(s) cannot be grouped with placer claim(s) and lease(s)

Kutcho/Kutcho South

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH

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Mineral Tenure Act
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684-2345 (Telephone) V6C 1G8 (Postal Code)
Valid subsisting FMC No. 112180
FMC Code HOMCAL

request that the following mineral titles on map number(s) 104I/01W, 104I/02E in the Liard Mining Division(s) be grouped under the group name Kutcho 91 Far West.

A copy of the mineral/placer titles reference map ☒ or a legal survey approved by the Surveyor General ☐ is attached. (check appropriate box)

Name of Claim	No. of Units	Title Number
Py 68 Py 69	14 9	222296 222297
Py 71	9	225770
T.R.C.	15	222457
Pink One	20	222460
Py 67	6	222295
Kris 1	1	227811
Kris 2	1	227812
Kris 3	1	227813
Kris 4	1	227814
Kris 5	1	227815

Name of Claim	No. of Units	Title Number
Kris 6	1	227816
Kris 7	1	227817
Kris 8	1	227818
Kris 9	1	227819
Kris 11	1	227820
Kris 12	1	227821
Kris 13	1	227822
Kris 14	1	227823
Kris 15	1	227824
Kris 16	1	227825

Notice to Group approved (Yes/No) ....

Total number of units 88

(Signature of Gold Commissioner)

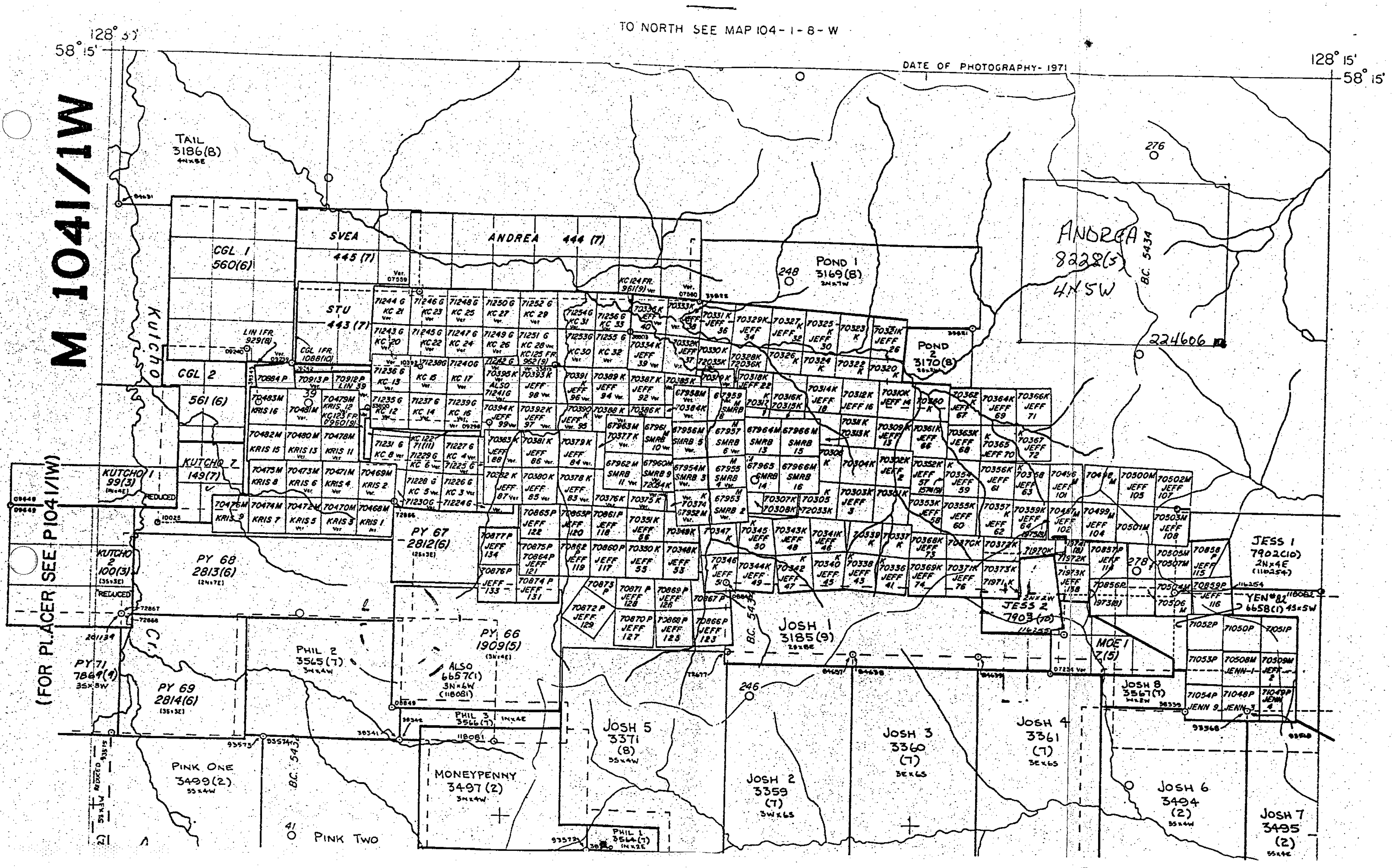
(Signature of Applicant)

(Date)

*NOTE: Mineral claim(s) and lease(s) cannot be grouped with placer claim(s) and lease(s)

MTL 114 REV. 91/02

Recycled Paper



M 104I/1W
(FOR PLACER SEE P104I/1W)
TO NORTH SEE MAP 104-I-8-W
DATE OF PHOTOGRAPHY- 1971
58° 15'
128° 15'
TAIL 3186(8)
CGL 1 560(6)
CGL 2 561(6)
SVEA 445(7)
ANDREA 444(7)
STU 443(7)
POND 1 3169(8)
POND 2 3170(8)
ANDREA 8228(5) 4N5W
224606
B.C. 5434
KUTCHO 1 99(3)
KUTCHO 2 100(3)
KUTCHO 7 149(7)
Kutcho
PY 67 2812(6)
PY 68 2813(6)
PY 66 1909(5)
ALSO 6657(1) 3N×6W (118081)
PY 69 2814(6)
PY 71 7869(4)
PHIL 2 3565(7)
PHIL 3 3566(7)
PHIL 1 3564(7)
PINK ONE 3499(2)
PINK TWO
MONEYPENNY 3497(2)
JOSH 1 3185(9)
JOSH 2 3359(7)
JOSH 3 3360(7)
JOSH 4 3361(7)
JOSH 5 3371(8)
JOSH 6 3494(2)
JOSH 7 3495(2)
JOSH 8 3567(7)
JESS 1 7902(10)
JESS 2 7903(10)
YEN #2 6658(1)
MOE 1 7(5)
REDUCED

APPENDIX IV

GEOCHEMICAL DATA

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Homestake Canada Limited PROJECT 3174 File # 91-3135 Page 1

1000 - 700 W. Pender St., Vancouver BC V6C 1G8

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
KB 600W 2300N	3	96	21	165	.6	46	6	447	6.74	8	5	ND	5	33	.7	2	4	35	.28	.053	36	27	.22	123	.13	2	2.41	.01	.04	1
KB 600W 2275N	1	302	6	87	2.1	93	13	2456	1.82	2	5	ND	1	333	7.5	2	2	10	4.79	.233	79	16	.18	243	.01	3	2.11	.01	.04	1
KB 600W 2250N	1	36	8	140	.3	74	14	841	4.08	6	5	ND	1	87	.9	2	2	51	.95	.051	22	53	1.02	146	.12	2	2.61	.02	.05	1
KB 600W 2225N	1	47	7	110	.5	53	23	1161	3.29	2	5	ND	1	157	.9	2	2	44	1.78	.113	34	43	.72	246	.05	2	2.29	.01	.05	3
KB 600W 2200N	1	91	6	96	.8	42	18	2295	3.22	4	5	ND	1	202	3.1	2	2	36	2.54	.163	43	36	.58	212	.03	2	2.07	.01	.04	1
KB 600W 2175N	1	33	5	70	.2	47	12	539	3.34	5	5	ND	1	62	.3	2	2	64	.55	.055	11	56	1.13	116	.14	3	1.82	.02	.08	1
KB 600W 2150N	1	37	10	190	.2	42	13	605	5.15	36	5	ND	3	107	1.1	2	2	52	1.45	.049	18	36	.41	125	.11	2	2.08	.01	.09	1
KB 600W 2125N	1	52	5	168	.3	45	12	607	3.17	9	5	ND	1	157	.9	2	2	46	2.11	.077	16	48	.96	130	.09	5	1.98	.02	.08	1
KB 600W 2100N	1	63	5	423	.4	22	11	1081	3.45	3	5	ND	1	235	1.9	2	2	25	3.46	.121	21	25	.53	146	.07	5	2.13	.02	.05	1
KB 600W 2075N	1	67	11	246	.2	37	17	1811	4.05	6	5	ND	1	153	1.9	2	2	47	1.74	.118	20	38	.60	173	.06	2	2.10	.02	.06	1
KB 600W 2050N	1	38	8	135	.3	31	25	884	5.01	9	5	ND	1	97	1.0	2	2	71	1.09	.100	20	42	.67	177	.08	2	2.69	.01	.05	1
KB 600W 2025N	3	27	7	216	.2	25	12	399	5.91	4	5	ND	1	16	.3	2	2	66	.09	.038	8	49	.99	68	.06	2	2.25	.01	.04	1
KB 600W 2000N	4	22	10	52	.1	7	4	174	2.32	2	5	ND	1	7	.2	2	2	48	.05	.025	11	15	.41	47	.09	2	1.52	.01	.04	1
KB 600W 1950N	2	106	8	199	.2	36	27	877	6.57	9	5	ND	1	17	.4	2	2	98	.22	.058	9	50	1.20	122	.14	2	2.99	.01	.08	2
KB 600W 1925N	8	106	16	891	.1	29	19	1243	6.00	5	5	ND	4	19	1.9	2	2	94	.31	.039	30	56	.71	129	.38	2	2.53	.02	.09	1
KB 600W 1900N	7	80	12	192	.2	15	6	633	5.59	10	5	ND	13	6	.5	2	2	14	.10	.036	40	16	.15	51	.15	2	4.64	.10	.10	1
KB 600W 1875N	3	14	11	116	.2	18	7	332	5.08	2	8	ND	2	11	.2	2	2	95	.11	.035	13	54	.76	42	.30	2	1.44	.01	.05	1
KB 600W 1850N	2	12	15	65	.2	13	6	318	3.53	2	5	ND	2	8	.2	2	2	110	.07	.020	13	36	.38	44	.42	2	1.09	.01	.05	1
KB 600W 1825N	2	8	9	19	.1	2	1	60	.75	2	5	ND	1	6	.3	2	3	26	.03	.010	15	11	.06	30	.10	2	.64	.01	.02	1
KB 600W 1800N	2	174	13	252	.2	46	14	771	6.55	7	5	ND	5	21	.7	2	3	57	.38	.067	45	50	.44	70	.36	2	4.56	.02	.06	1
KB 600W 1750N	2	36	5	98	.1	6	3	138	2.19	12	5	ND	1	4	.2	2	2	40	.03	.011	8	11	.05	15	.08	2	.57	.01	.03	1
KB 600W 1700N	1	26	9	140	.1	67	12	390	7.24	12	5	ND	1	18	.8	2	2	107	.25	.033	8	98	.61	103	.21	2	2.61	.01	.06	1
KB 400W 2625N	1	31	7	79	.3	77	12	533	3.32	7	5	ND	1	66	.6	2	2	54	.96	.050	12	85	1.13	158	.11	3	1.88	.01	.07	1
KB 400W 2600N	1	101	6	149	.4	98	19	1100	5.34	10	5	ND	2	111	1.0	2	2	54	1.55	.075	32	62	1.03	157	.33	2	3.17	.05	.05	1
KB 400W 2575N	1	28	9	113	.1	55	15	669	5.00	9	5	ND	1	66	.8	2	2	68	.65	.061	15	75	.71	119	.16	2	2.25	.01	.06	1
KB 400W 2550N	1	23	6	93	.2	42	11	330	3.78	7	5	ND	1	40	.2	2	2	80	.40	.035	8	73	.69	124	.17	2	1.56	.01	.05	1
KB 400W 2525N	2	38	14	102	.3	31	17	1029	3.19	10	5	ND	1	154	2.0	2	2	61	1.44	.048	10	40	.31	138	.11	2	1.22	.01	.05	1
KB 400W 2500N	1	56	5	105	.4	46	12	666	3.25	18	5	ND	1	231	1.0	2	2	37	2.98	.088	20	35	.42	125	.14	5	1.91	.02	.04	1
KB 400W 2475N	1	93	7	133	.9	79	15	809	3.53	43	5	ND	1	211	1.2	2	2	35	2.50	.103	41	61	.74	141	.14	7	2.23	.02	.10	1
KB 400W 2450N	1	44	5	102	.2	70	14	495	3.93	10	5	ND	1	50	.3	2	2	59	.46	.044	8	76	1.28	149	.11	2	2.08	.01	.05	1
KB 400W 2425N	1	19	9	75	.1	35	10	388	4.76	6	5	ND	1	18	.2	2	2	97	.12	.040	9	75	.63	143	.20	2	1.83	.01	.05	1
KB 400W 2400N	1	42	14	87	.1	92	17	726	6.76	12	6	ND	1	18	.3	2	2	88	.15	.056	6	115	1.11	118	.14	2	2.09	.01	.06	1
KB 400W 2375N	1	47	7	97	.1	82	18	968	3.89	9	5	ND	1	48	.2	2	2	58	.48	.060	10	86	1.26	131	.09	3	2.08	.01	.05	1
KB 400W 2350N	1	59	5	109	.3	86	13	652	3.69	11	5	ND	1	125	.4	2	3	53	1.45	.056	24	78	.99	104	.17	5	1.94	.02	.06	2
KB 400W 2325N	1	76	7	113	.3	51	12	507	3.96	18	5	ND	1	82	.6	2	2	43	.81	.074	27	44	.83	155	.04	2	1.88	.01	.05	1
KB 400W 2300N	3	64	12	128	.5	74	14	451	4.25	21	5	ND	1	105	.5	2	2	35	.57	.059	18	47	.40	145	.03	2	1.65	.01	.08	1
KB 400W 2275N	2	34	9	111	.2	47	10	299	4.06	11	5	ND	1	97	.4	2	2	37	.68	.054	11	31	.34	91	.12	2	1.54	.01	.04	1
STANDARD C	18	58	37	135	7.0	70	33	1055	3.99	44	17	6	39	52	18.6	16	19	55	.48	.091	39	58	.89	178	.09	32	1.94	.06	.15	11

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 TO P3 SOIL P4 ROCK

DATE RECEIVED: AUG 2 1991 **DATE REPORT MAILED:** Aug 13/91. **SIGNED BY** .... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Homestake Canada Limited PROJECT 3174 FILE # 91-3135

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
KB 400W 2250N	1	29	8	100	.1	105	18	779	3.82	11	5	ND	1	64	.2	2	2	58	.65	.043	10	115	1.35	109	.15	4	1.76	.02	.07	1
KB 400W 2225N	3	46	10	109	.3	33	10	420	2.71	15	5	ND	1	77	1.2	2	2	47	.90	.073	8	55	.74	116	.04	2	1.57	.01	.05	1
KB 400W 2200N	1	129	16	315	.4	83	19	1055	4.77	39	5	ND	1	159	.5	2	2	53	2.20	.089	26	68	.94	141	.18	6	2.46	.03	.06	1
KB 400W 2175N	1	106	13	452	.4	85	14	871	4.18	17	5	ND	1	167	.9	2	2	44	2.49	.119	24	78	1.10	142	.10	8	2.19	.03	.07	1
KB 400W 2150N	2	38	12	139	.2	56	16	1029	5.15	7	5	ND	1	108	.4	2	2	58	1.38	.066	15	72	.68	139	.27	2	2.28	.03	.06	1
KB 400W 2125N	2	53	11	129	.3	96	26	1297	5.96	8	5	ND	1	87	.5	2	2	65	1.07	.067	21	97	1.12	141	.20	4	2.55	.03	.08	1
KB 400W 2100N	3	64	14	187	.2	71	22	1534	5.61	11	5	ND	1	87	1.4	2	2	62	1.06	.097	21	90	.92	137	.18	2	2.28	.02	.08	1
KB 400W 2075N	3	66	11	182	.2	72	19	1169	5.39	7	5	ND	1	73	.8	2	2	65	.89	.098	17	112	1.12	141	.11	4	2.37	.02	.09	1
KB 400W 2050N	3	32	17	89	.2	101	36	1931	7.19	20	5	ND	1	29	.2	2	2	96	.33	.067	10	159	1.24	105	.22	4	1.88	.02	.08	1
KB 400W 2025N	3	17	11	72	.2	40	9	607	6.49	8	5	ND	1	15	.2	2	2	94	.17	.060	9	87	.71	65	.30	2	2.17	.02	.06	1
KB 400W 2000N	3	28	6	82	.1	80	14	504	4.11	8	5	ND	1	24	.2	2	2	70	.26	.026	9	110	1.40	83	.18	3	1.86	.01	.06	1
KB 400W 1975N	12	54	14	216	.1	30	9	576	3.59	5	5	ND	1	34	1.3	2	2	66	.44	.033	20	65	.71	128	.24	2	1.72	.02	.09	1
KB 400W 1950N	9	39	13	210	.2	49	12	675	5.18	8	5	ND	1	19	.7	2	2	83	.18	.031	16	84	.89	142	.22	3	2.00	.02	.08	1
KB 400W 1925N	2	12	5	64	.3	21	7	411	2.55	3	5	ND	1	19	.8	2	2	66	.38	.069	5	46	.76	114	.12	2	1.08	.01	.08	1
KB 400W 1900N	1	105	7	251	.4	21	10	928	4.49	4	5	ND	1	31	1.2	2	2	70	.91	.050	12	45	1.59	109	.23	3	2.58	.01	.06	1
KB 400W 1875N	2	274	13	232	.4	80	34	1032	6.26	3	5	ND	1	32	.2	2	2	61	.88	.094	23	67	.99	214	.07	3	4.37	.02	.11	1
KB 400W 1850N	2	45	2	68	.2	21	5	145	.63	3	5	ND	1	104	1.1	2	2	11	2.80	.135	6	13	.28	146	.02	6	.70	.01	.04	1
KB 400W 1825N	3	241	8	184	.6	81	16	1479	4.84	6	5	ND	1	52	.5	2	2	49	2.08	.216	97	61	.82	264	.03	2	3.87	.01	.13	1
KB 400W 1800N	2	129	7	79	.4	69	14	1088	4.34	4	5	ND	1	45	.6	2	2	41	1.52	.149	62	68	.42	170	.04	2	3.15	.01	.06	1
KB 400W 1775N	1	188	7	108	.4	72	11	1873	3.38	4	5	ND	1	60	1.4	2	2	24	2.99	.321	74	55	.38	210	.03	2	3.55	.01	.04	1
KB 400W 1750N	2	17	10	59	.1	23	5	268	2.23	3	5	ND	1	16	.2	2	3	85	.27	.029	12	54	.28	92	.28	2	1.09	.01	.05	1
KB 400W 1725N	1	27	8	108	.1	19	8	530	2.90	4	5	ND	1	24	.3	2	2	27	.91	.054	16	23	.25	131	.04	2	1.13	.01	.10	1
KB 400W 1700N	2	68	12	157	.2	45	16	1931	4.51	5	5	ND	1	39	.3	2	2	47	1.40	.159	25	63	.61	160	.06	2	2.22	.02	.07	1
KB 400W 1675N	3	35	16	126	.3	77	18	694	9.21	21	5	ND	2	19	.2	2	2	86	.20	.061	13	103	.83	137	.26	4	3.36	.02	.07	1
KB 400W 1650N	3	18	14	79	.2	29	9	531	5.30	8	5	ND	1	31	.6	2	2	87	.65	.036	10	60	.50	119	.33	2	1.77	.01	.07	1
KB 400W 1625N	2	91	15	218	.4	50	28	3275	5.60	4	5	ND	1	54	1.7	2	2	81	1.49	.127	17	63	1.39	292	.08	3	3.48	.01	.08	1
KB 400W 1600N	1	42	4	72	.2	54	19	787	3.60	7	5	ND	1	40	.2	2	2	66	.44	.058	9	66	1.09	132	.22	5	1.93	.02	.06	1
KB 400W 1585N	2	13	12	67	.3	28	7	292	3.21	4	5	ND	4	26	.2	2	2	41	.11	.029	16	32	.46	187	.17	2	2.92	.01	.09	1
KB 400W 1575N	1	15	8	77	.2	37	9	330	3.44	5	5	ND	2	21	.2	2	2	56	.17	.037	9	50	.79	149	.18	2	2.89	.01	.07	1
KB 400W 1525N	3	20	6	98	.2	38	8	460	5.45	7	5	ND	2	16	.2	2	2	74	.13	.075	13	54	.73	110	.19	2	3.02	.01	.10	1
KB 400W 1500N	1	13	8	76	.3	31	9	390	3.65	4	5	ND	1	26	.2	2	2	69	.26	.064	8	55	.88	109	.23	3	2.25	.01	.07	1
KB 400W 1475N	2	21	7	116	.4	46	12	510	5.16	6	5	ND	1	19	.2	2	2	74	.19	.123	9	72	1.04	106	.17	3	2.83	.02	.08	1
KB 400W 1450N	3	47	8	145	.6	48	13	642	6.99	6	5	ND	2	13	.2	2	2	75	.13	.089	19	63	.58	136	.33	2	4.30	.02	.09	1
KB 400W 1425N	1	44	2	92	.3	50	15	777	3.67	4	5	ND	1	34	.3	2	2	63	.37	.081	9	57	.88	149	.15	4	2.23	.01	.08	1
KB 400W 1400N	3	82	6	135	.4	92	17	906	5.11	8	5	ND	1	63	.2	2	2	73	.85	.113	23	104	1.33	312	.16	5	3.31	.03	.09	1
KB 400W 1375N	2	16	5	108	.2	48	9	327	2.96	4	5	ND	1	47	.2	2	2	59	.74	.064	7	81	1.00	126	.13	5	1.84	.02	.11	1
KB 400W 1350N	2	24	2	94	.2	68	17	738	3.93	7	5	ND	1	36	.2	2	2	67	.45	.065	8	95	1.31	166	.17	3	2.14	.02	.08	1
STANDARD C	18	58	38	133	6.7	71	33	1042	3.95	38	17	6	36	52	18.9	16	18	57	.49	.090	36	58	.89	176	.09	31	1.89	.06	.15	13

ACME ANALYTICAL

Homestake Canada Limited PROJECT 3174 FILE # 91-3135

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
KB 400W 1325N	2	38	6	108	.1	80	15	565	3.58	9	5	ND	1	86	.5	2	2	64	1.51	.099	9	83	1.51	177	.11	4	1.93	.03	.10	1
KB 400W 1300N	2	56	4	126	.2	41	13	839	3.81	7	9	ND	1	94	.7	2	2	49	2.35	.096	16	45	.89	264	.10	5	1.93	.03	.08	1
KB 400W 1275N	1	35	5	105	.3	24	9	1133	2.58	4	5	ND	1	68	1.1	2	2	50	2.24	.092	15	34	.37	268	.10	4	1.59	.02	.06	1
KB 400W 1250N	2	62	2	206	.3	62	12	1009	4.64	8	8	ND	1	65	1.3	2	2	54	1.98	.115	34	55	.43	291	.22	3	3.81	.05	.08	1
KB 400W 1225N	2	89	7	110	.3	70	17	1035	4.24	9	8	ND	1	51	.9	2	2	63	1.21	.098	36	71	.88	244	.18	4	3.15	.03	.09	1
KB 400W 1200N	2	27	3	109	.1	43	12	471	5.00	4	10	ND	2	28	.6	2	2	61	.43	.071	22	41	.73	165	.39	2	3.48	.06	.07	1
KB 400W 1175N	1	31	6	67	.1	46	12	575	5.30	12	5	ND	1	24	.2	2	2	93	.23	.057	7	74	.92	100	.15	2	2.06	.01	.05	1
KB 400W 1150N	1	91	5	76	.1	50	11	992	3.79	4	8	ND	1	63	.4	2	2	48	1.02	.117	73	41	.31	502	.19	2	3.00	.04	.06	1
KB 400W 1125N	2	94	3	136	.3	51	13	2492	3.24	4	6	ND	1	80	1.4	2	2	40	2.80	.161	42	41	.33	366	.09	3	2.50	.02	.05	1
KB 4400W 11400N	1	44	10	90	.1	47	11	508	4.99	15	5	ND	1	21	.4	2	2	102	.21	.048	6	61	.76	109	.10	3	2.07	.01	.05	1
STANDARD C	20	62	42	133	7.3	75	34	1064	4.07	42	22	7	40	53	17.2	16	22	60	.51	.094	41	55	.95	183	.08	31	1.99	.07	.15	11

ACME ANALYTICAL

Homestake Canada Limited PROJECT 3174 FILE # 91-3135

ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm
91PHKC-R37	8	94	7	177	.1	3	16	795	15.49	29	5	ND	1	15	.2	2	6	218	.26	.063	2	4	.53	21	.07	2	2.04	.03	.01	1
91PHKC-R38	3	19	5	27	.1	9	9	303	5.56	3	5	ND	1	2	.2	2	2	55	.01	.008	2	28	2.19	43	.01	2	1.92	.04	.01	1
91PHKC-R39	9	5	2	20	.1	2	5	174	3.53	2	5	ND	1	1	.2	2	2	6	.01	.002	2	4	1.05	8	.01	2	1.06	.04	.01	1

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
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BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

REPORT: V91-00927.0 (COMPLETE)

REFERENCE INFO: SHIPMENT #1

CLIENT: HOMESTAKE MINERAL DEVELOPMENT COMPANY
PROJECT: 3200

SUBMITTED BY: P. HORBEK
DATE PRINTED: 29-JUL-91

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Ag	Silver	58	0.2 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
2	Cu	Copper	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
3	Pb	Lead	58	2 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
4	Zn	Zinc	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
5	Mo	Molybdenum	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
6	Ni	Nickel	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
7	Co	Cobalt	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
8	Cd	Cadmium	58	1.0 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
9	Bi	Bismuth	58	5 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
10	As	Arsenic	58	5 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
11	Sb	Antimony	58	5 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
12	Fe	Iron	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
13	Mn	Manganese	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
14	Te	Tellurium	58	10 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
15	Ba	Barium	58	2 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
16	Cr	Chromium	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
17	V	Vanadium	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
18	Sn	Tin	58	20 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
19	W	Tungsten	58	20 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
20	La	Lanthanum	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
21	Al	Aluminum	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
22	Mg	Magnesium	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
23	Ca	Calcium	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
24	Na	Sodium	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
25	K	Potassium	58	0.01 PCT	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
26	Sr	Strontium	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma
27	Y	Yttrium	58	1 PPM	HNO3-HCl Hot Extr.	Ind. Coupled Plasma

Bondar-Clegg & Company Ltd.
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BONDAR-CLEGG

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V91-00927.0 (COMPLETE)

REFERENCE INFO: SHIPMENT #1

CLIENT: HOMESTAKE MINERAL DEVELOPMENT COMPANY
PROJECT: 3200

SUBMITTED BY: P. HORBEK
DATE PRINTED: 29-JUL-91

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOILS	58	1 -80	29	DRY, SIEVE -80	29
		Q -200	29	SIEVE -200	29

REPORT COPIES TO: MR. PETER HOLBEK

INVOICE TO: MR. PETER HOLBEK

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
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Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

DATE PRINTED: 29-JUL-91

REPORT: V91-00927.0 (COMPLETE)

PROJECT: 3200 PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM
S1 JG350E 670N (-80)		<0.2	18	11	58	3	18	9	<1.0	<5	<5	<5
SQ JG350E 670N (-200)		<0.2	18	10	62	3	18	7	<1.0	<5	<5	<5
S1 JG350E 655N (-80)		<0.2	23	8	64	1	40	11	<1.0	<5	<5	<5
SQ JG350E 655N (-200)		<0.2	26	7	69	2	43	11	<1.0	<5	9	<5
S1 JG350E 640N (-80)		<0.2	43	8	110	3	42	14	<1.0	<5	9	<5
SQ JG350E 640N (-200)		<0.2	43	11	115	3	43	14	<1.0	<5	11	<5
S1 JG350E 625N (-80)		<0.2	100	6	88	6	46	36	<1.0	<5	30	<5
SQ JG350E 625N (-200)		<0.2	110	5	98	7	46	34	<1.0	<5	34	<5
S1 JG350E 610N (-80)		<0.2	29	9	74	2	36	11	<1.0	<5	10	<5
SQ JG350E 610N (-200)		<0.2	27	8	70	1	35	9	<1.0	<5	<5	<5
S1 JG350E 595N (-80)		<0.2	15	10	125	2	27	9	<1.0	<5	9	<5
SQ JG350E 595N (-200)		<0.2	14	10	93	2	23	8	<1.0	<5	11	<5
S1 JG350E 580N (-80)		<0.2	20	8	110	2	36	9	<1.0	<5	7	<5
SQ JG350E 580N (-200)		<0.2	20	10	108	2	36	9	<1.0	<5	9	<5
S1 JG400E 670N (-80)		<0.2	17	10	79	2	22	10	<1.0	<5	15	<5
SQ JG400E 670N (-200)		<0.2	15	14	75	2	20	9	<1.0	<5	17	<5
S1 JG400E 655N (-80)		<0.2	25	6	61	2	39	11	<1.0	<5	11	<5
SQ JG400E 655N (-200)		<0.2	25	6	58	1	37	11	<1.0	<5	<5	<5
S1 JG400E 640N (-80)		<0.2	18	9	69	2	30	11	<1.0	<5	9	<5
SQ JG400E 640N (-200)		<0.2	20	9	70	5	28	11	<1.0	<5	7	<5
S1 JG400E 625N (-80)		<0.2	21	3	78	2	37	13	<1.0	<5	<5	<5
SQ JG400E 625N (-200)		<0.2	20	4	74	2	34	13	<1.0	<5	8	<5
S1 JG400E 610N (-80)		<0.2	18	11	99	2	27	10	<1.0	<5	<5	<5
SQ JG400E 610N (-200)		<0.2	19	12	101	2	26	9	<1.0	<5	<5	<5
S1 JG400E 595N (-80)		<0.2	20	7	77	2	33	12	<1.0	<5	11	<5
SQ JG400E 595N (-200)		<0.2	20	7	67	1	29	11	<1.0	<5	10	<5
S1 JG400E 580N (-80)		<0.2	38	9	78	2	41	14	<1.0	<5	10	<5
SQ JG400E 580N (-200)		<0.2	36	9	80	1	41	13	<1.0	<5	6	<5
S1 JG400E 565N (-80)		<0.2	40	9	86	2	36	13	<1.0	<5	10	<5
SQ JG400E 565N (-200)		<0.2	45	11	98	6	44	13	<1.0	<5	16	<5
S1 JG1000E 490N (-80)		<0.2	46	7	84	3	34	13	<1.0	<5	12	<5
SQ JG1000E 490N (-200)		<0.2	48	7	94	2	38	13	<1.0	<5	12	<5
S1 JG1000E 475N (-80)		<0.2	37	8	81	2	39	15	<1.0	<5	5	<5
SQ JG1000E 475N (-200)		<0.2	40	8	88	2	44	15	<1.0	<5	8	<5
S1 JG1000E 460N (-80)		<0.2	42	7	102	1	49	23	<1.0	<5	12	<5
SQ JG1000E 460N (-200)		<0.2	48	9	104	1	52	23	<1.0	<5	14	<5
S1 JG1000E 445N (-80)		<0.2	49	8	78	2	43	16	<1.0	<5	6	<5
SQ JG1000E 445N (-200)		<0.2	53	8	84	2	44	14	<1.0	<5	8	<5
S1 JG1000E 430N (-80)		<0.2	88	8	65	1	39	16	<1.0	<5	6	<5
SQ JG1000E 430N (-200)		<0.2	87	6	66	1	39	13	<1.0	<5	5	<5

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SAMPLE NUMBER	ELEMENT UNITS	Fe PCT	Mn PCT	Te PPM	Ba PPM	Cr PPM	V PPM	Sn PPM	W PPM	La PPM	Al PCT	Mg PCT
S1 JG350E 670N (-80)		4.04	0.09	<10	161	35	64	<20	<20	16	1.99	0.35
SQ JG350E 670N (-200)		4.11	0.06	<10	149	39	63	<20	<20	16	2.13	0.33
S1 JG350E 655N (-80)		3.92	0.05	<10	222	42	57	<20	<20	17	3.01	0.70
SQ JG350E 655N (-200)		4.21	0.05	<10	243	47	61	<20	<20	18	3.53	0.73
S1 JG350E 640N (-80)		3.51	0.10	<10	228	42	57	<20	<20	15	2.16	0.89
SQ JG350E 640N (-200)		3.48	0.09	<10	245	44	56	<20	<20	15	2.30	0.88
S1 JG350E 625N (-80)		6.34	0.15	<10	149	62	102	<20	<20	8	1.24	0.61
SQ JG350E 625N (-200)		7.10	0.14	<10	169	70	120	<20	<20	10	1.44	0.72
S1 JG350E 610N (-80)		3.22	0.05	<10	206	38	53	<20	<20	12	2.11	0.74
SQ JG350E 610N (-200)		3.04	0.04	<10	192	36	50	<20	<20	12	1.97	0.72
S1 JG350E 595N (-80)		3.90	0.06	<10	97	32	53	<20	<20	11	2.35	0.46
SQ JG350E 595N (-200)		4.05	0.05	<10	101	35	51	<20	<20	12	2.70	0.36
S1 JG350E 580N (-80)		4.11	0.06	<10	143	36	46	<20	<20	17	3.21	0.60
SQ JG350E 580N (-200)		4.12	0.05	<10	145	38	46	<20	<20	17	3.32	0.61
S1 JG400E 670N (-80)		3.37	0.09	<10	110	27	45	<20	<20	11	1.89	0.47
SQ JG400E 670N (-200)		3.44	0.08	<10	108	29	41	<20	<20	15	2.24	0.37
S1 JG400E 655N (-80)		3.42	0.07	<10	139	32	43	<20	<20	34	2.78	0.61
SQ JG400E 655N (-200)		3.46	0.07	<10	142	32	43	<20	<20	38	3.01	0.57
S1 JG400E 640N (-80)		3.65	0.07	<10	110	33	48	<20	<20	22	2.52	0.52
SQ JG400E 640N (-200)		3.91	0.06	<10	118	36	48	<20	<20	27	2.94	0.47
S1 JG400E 625N (-80)		4.56	0.06	<10	98	34	55	<20	<20	30	4.02	0.73
SQ JG400E 625N (-200)		4.68	0.05	<10	98	37	57	<20	<20	31	4.36	0.71
S1 JG400E 610N (-80)		3.54	0.07	<10	100	31	46	<20	<20	8	1.79	0.58
SQ JG400E 610N (-200)		3.75	0.07	<10	113	32	46	<20	<20	9	2.03	0.58
S1 JG400E 595N (-80)		3.29	0.07	<10	94	31	40	<20	<20	11	2.67	0.57
SQ JG400E 595N (-200)		3.37	0.07	<10	94	30	37	<20	<20	13	3.08	0.49
S1 JG400E 580N (-80)		3.23	0.07	<10	193	43	53	<20	<20	11	2.05	0.84
SQ JG400E 580N (-200)		3.28	0.07	<10	200	45	53	<20	<20	12	2.15	0.84
S1 JG400E 565N (-80)		3.23	0.06	<10	199	40	52	<20	<20	13	1.98	0.77
SQ JG400E 565N (-200)		3.51	0.06	<10	233	49	59	<20	<20	16	2.29	0.86
S1 JG1000E 490N (-80)		3.48	0.06	<10	119	43	54	<20	<20	13	2.20	0.94
SQ JG1000E 490N (-200)		3.68	0.07	<10	143	48	57	<20	<20	15	2.61	0.99
S1 JG1000E 475N (-80)		3.36	0.08	<10	131	42	53	<20	<20	11	2.15	1.02
SQ JG1000E 475N (-200)		3.54	0.08	<10	151	47	57	<20	<20	12	2.43	1.07
S1 JG1000E 460N (-80)		4.31	0.10	<10	86	46	57	<20	<20	7	2.84	1.83
SQ JG1000E 460N (-200)		4.29	0.10	<10	112	51	61	<20	<20	8	3.04	1.68
S1 JG1000E 445N (-80)		3.57	0.08	<10	185	49	59	<20	<20	11	2.29	1.08
SQ JG1000E 445N (-200)		3.68	0.07	<10	187	51	60	<20	<20	13	2.51	1.10
S1 JG1000E 430N (-80)		3.39	0.08	<10	157	48	58	<20	<20	10	2.07	1.11
SQ JG1000E 430N (-200)		3.40	0.06	<10	156	51	59	<20	<20	10	2.13	1.16

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SAMPLE NUMBER	ELEMENT UNITS	Ca PCT	Na PCT	K PCT	Sr PPM	Y PPM
S1 JG350E 670N (-80)		0.30	<0.01	0.04	35	11
SQ JG350E 670N (-200)		0.30	<0.01	0.04	35	11
S1 JG350E 655N (-80)		0.25	0.02	0.06	29	12
SQ JG350E 655N (-200)		0.26	0.01	0.07	31	13
S1 JG350E 640N (-80)		0.64	0.01	0.13	72	13
SQ JG350E 640N (-200)		0.67	0.02	0.14	77	14
S1 JG350E 625N (-80)		0.32	<0.01	0.09	34	14
SQ JG350E 625N (-200)		0.36	<0.01	0.10	39	17
S1 JG350E 610N (-80)		0.35	0.01	0.09	36	8
SQ JG350E 610N (-200)		0.35	0.01	0.09	36	8
S1 JG350E 595N (-80)		0.22	0.01	0.04	18	6
SQ JG350E 595N (-200)		0.24	0.01	0.04	20	7
S1 JG350E 580N (-80)		0.23	<0.01	0.09	21	11
SQ JG350E 580N (-200)		0.24	<0.01	0.09	22	12
S1 JG400E 670N (-80)		0.15	0.01	0.05	16	7
SQ JG400E 670N (-200)		0.14	0.01	0.04	14	9
S1 JG400E 655N (-80)		0.22	0.02	0.04	17	27
SQ JG400E 655N (-200)		0.23	0.01	0.04	17	31
S1 JG400E 640N (-80)		0.13	0.01	0.04	13	17
SQ JG400E 640N (-200)		0.15	<0.01	0.04	13	22
S1 JG400E 625N (-80)		0.25	0.02	0.03	10	27
SQ JG400E 625N (-200)		0.28	0.02	0.03	10	29
S1 JG400E 610N (-80)		0.19	<0.01	0.05	16	5
SQ JG400E 610N (-200)		0.22	0.01	0.05	19	6
S1 JG400E 595N (-80)		0.13	<0.01	0.04	13	8
SQ JG400E 595N (-200)		0.13	<0.01	0.04	14	11
S1 JG400E 580N (-80)		0.37	0.01	0.11	39	9
SQ JG400E 580N (-200)		0.38	0.01	0.10	40	10
S1 JG400E 565N (-80)		0.41	0.01	0.09	44	11
SQ JG400E 565N (-200)		0.47	0.01	0.11	53	12
S1 JG1000E 490N (-80)		0.32	<0.01	0.09	23	10
SQ JG1000E 490N (-200)		0.33	<0.01	0.10	24	13
S1 JG1000E 475N (-80)		0.32	<0.01	0.09	22	9
SQ JG1000E 475N (-200)		0.35	<0.01	0.11	24	11
S1 JG1000E 460N (-80)		0.23	<0.01	0.09	13	6
SQ JG1000E 460N (-200)		0.28	<0.01	0.10	16	8
S1 JG1000E 445N (-80)		0.42	0.01	0.09	30	12
SQ JG1000E 445N (-200)		0.40	0.01	0.09	30	13
S1 JG1000E 430N (-80)		0.46	<0.01	0.08	52	12
SQ JG1000E 430N (-200)		0.46	0.01	0.08	52	12

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S1 JG1000E 415N (-80)		<0.2	26	7	64	1	35	12	<1.0	<5	6	<5
SQ JG1000E 415N (-200)		<0.2	28	8	66	2	37	12	<1.0	<5	6	<5
S1 JG1000E 400N (-80)		<0.2	244	20	94	2	21	23	<1.0	<5	<5	<5
SQ JG1000E 400N (-200)		<0.2	209	24	90	2	22	22	<1.0	<5	<5	<5
S1 JG1050E 490N (-80)		<0.2	35	5	64	1	37	13	<1.0	<5	8	<5
SQ JG1050E 490N (-200)		<0.2	38	6	69	2	40	14	<1.0	<5	<5	<5
S1 JG1050E 475N (-80)		<0.2	91	6	128	1	33	16	<1.0	<5	<5	<5
SQ JG1050E 475N (-200)		<0.2	93	7	141	1	40	17	<1.0	<5	<5	<5
S1 JG1050E 460N (-80)		<0.2	49	6	74	1	43	14	<1.0	<5	6	<5
SQ JG1050E 460N (-200)		<0.2	53	8	79	2	49	14	<1.0	<5	12	<5
S1 JG1050E 445N (-80)		<0.2	19	8	63	2	31	11	<1.0	<5	<5	<5
SQ JG1050E 445N (-200)		<0.2	19	8	65	2	32	10	<1.0	<5	8	<5
S1 JG1050E 430N (-80)		<0.2	19	8	109	2	32	11	<1.0	<5	<5	<5
SQ JG1050E 430N (-200)		<0.2	19	5	110	1	32	10	<1.0	<5	<5	<5
S1 JG1050E 415N (-80)		<0.2	53	7	65	2	29	13	<1.0	<5	14	<5
SQ JG1050E 415N (-200)		<0.2	32	7	61	2	29	11	<1.0	<5	11	<5
S1 JG1050E 400N (-80)		<0.2	21	7	66	1	36	13	<1.0	<5	10	<5
SQ JG1050E 400N (-200)		<0.2	21	5	61	1	32	12	<1.0	<5	8	<5

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S1 JG1000E 415N (-80)		3.04	0.06	<10	107	38	51	<20	<20	9	2.20	0.76
SQ JG1000E 415N (-200)		3.18	0.06	<10	118	41	53	<20	<20	9	2.46	0.78
S1 JG1000E 400N (-80)		5.65	0.10	<10	118	34	88	<20	<20	12	3.42	1.77
SQ JG1000E 400N (-200)		5.61	0.12	<10	140	39	95	<20	<20	13	3.54	1.64
S1 JG1050E 490N (-80)		3.11	0.06	<10	93	40	52	<20	<20	9	2.25	0.83
SQ JG1050E 490N (-200)		3.40	0.06	<10	102	45	57	<20	<20	10	2.53	0.90
S1 JG1050E 475N (-80)		3.50	0.06	<10	67	55	59	<20	<20	6	2.15	1.30
SQ JG1050E 475N (-200)		3.89	0.07	<10	82	65	66	<20	<20	8	2.51	1.46
S1 JG1050E 460N (-80)		3.44	0.06	<10	160	46	55	<20	<20	11	2.25	1.10
SQ JG1050E 460N (-200)		3.65	0.06	<10	184	52	60	<20	<20	13	2.48	1.15
S1 JG1050E 445N (-80)		2.90	0.05	<10	94	35	46	<20	<20	8	1.79	0.65
SQ JG1050E 445N (-200)		3.08	0.05	<10	102	37	47	<20	<20	9	1.97	0.67
S1 JG1050E 430N (-80)		3.03	0.06	<10	81	40	47	<20	<20	7	1.71	0.74
SQ JG1050E 430N (-200)		2.98	0.05	<10	80	40	46	<20	<20	7	1.79	0.77
S1 JG1050E 415N (-80)		3.50	0.06	<10	173	33	53	<20	<20	14	2.27	0.95
SQ JG1050E 415N (-200)		3.23	0.05	<10	182	35	49	<20	<20	14	2.28	0.80
S1 JG1050E 400N (-80)		2.81	0.06	<10	69	40	46	<20	<20	6	1.94	0.72
SQ JG1050E 400N (-200)		2.85	0.06	<10	72	38	45	<20	<20	7	2.10	0.65

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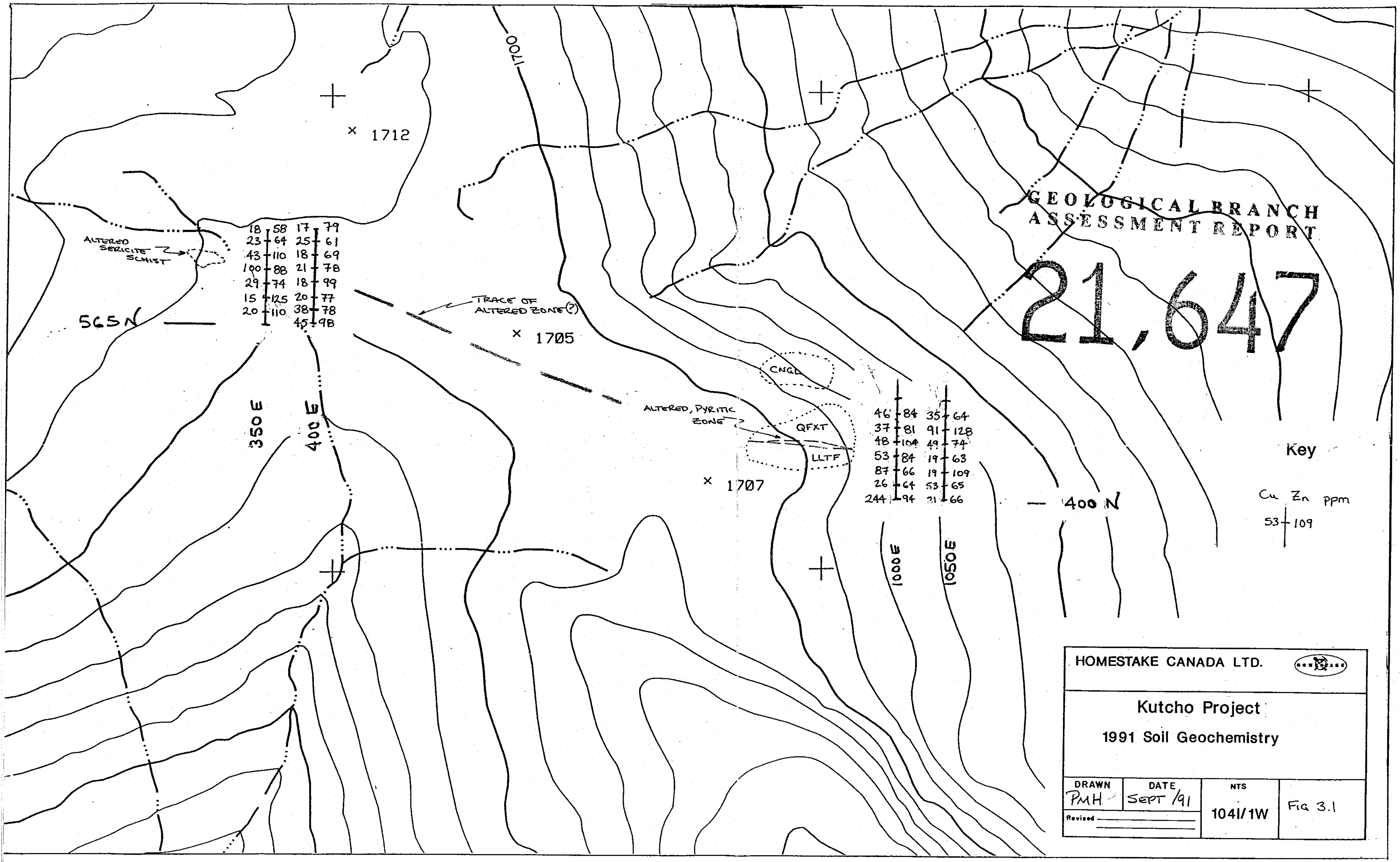
S1 JG1000E 415N (-80)		0.14	<0.01	0.07	18	5
SQ JG1000E 415N (-200)		0.14	<0.01	0.07	20	6
S1 JG1000E 400N (-80)		0.87	<0.01	0.43	47	8
SQ JG1000E 400N (-200)		0.92	<0.01	0.50	51	8
S1 JG1050E 490N (-80)		0.17	<0.01	0.07	14	6
SQ JG1050E 490N (-200)		0.18	<0.01	0.08	15	8
S1 JG1050E 475N (-80)		0.29	<0.01	0.08	20	5
SQ JG1050E 475N (-200)		0.26	<0.01	0.09	18	6
S1 JG1050E 460N (-80)		0.42	<0.01	0.07	28	10
SQ JG1050E 460N (-200)		0.46	<0.01	0.08	31	11
S1 JG1050E 445N (-80)		0.22	<0.01	0.06	26	4
SQ JG1050E 445N (-200)		0.24	0.01	0.06	30	5
S1 JG1050E 430N (-80)		0.24	<0.01	0.06	32	4
SQ JG1050E 430N (-200)		0.23	<0.01	0.06	31	4
S1 JG1050E 415N (-80)		0.50	0.01	0.06	61	8
SQ JG1050E 415N (-200)		0.46	0.01	0.06	59	9
S1 JG1050E 400N (-80)		0.18	<0.01	0.06	16	4
SQ JG1050E 400N (-200)		0.18	<0.01	0.05	17	4


GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,647
1700
× 1712
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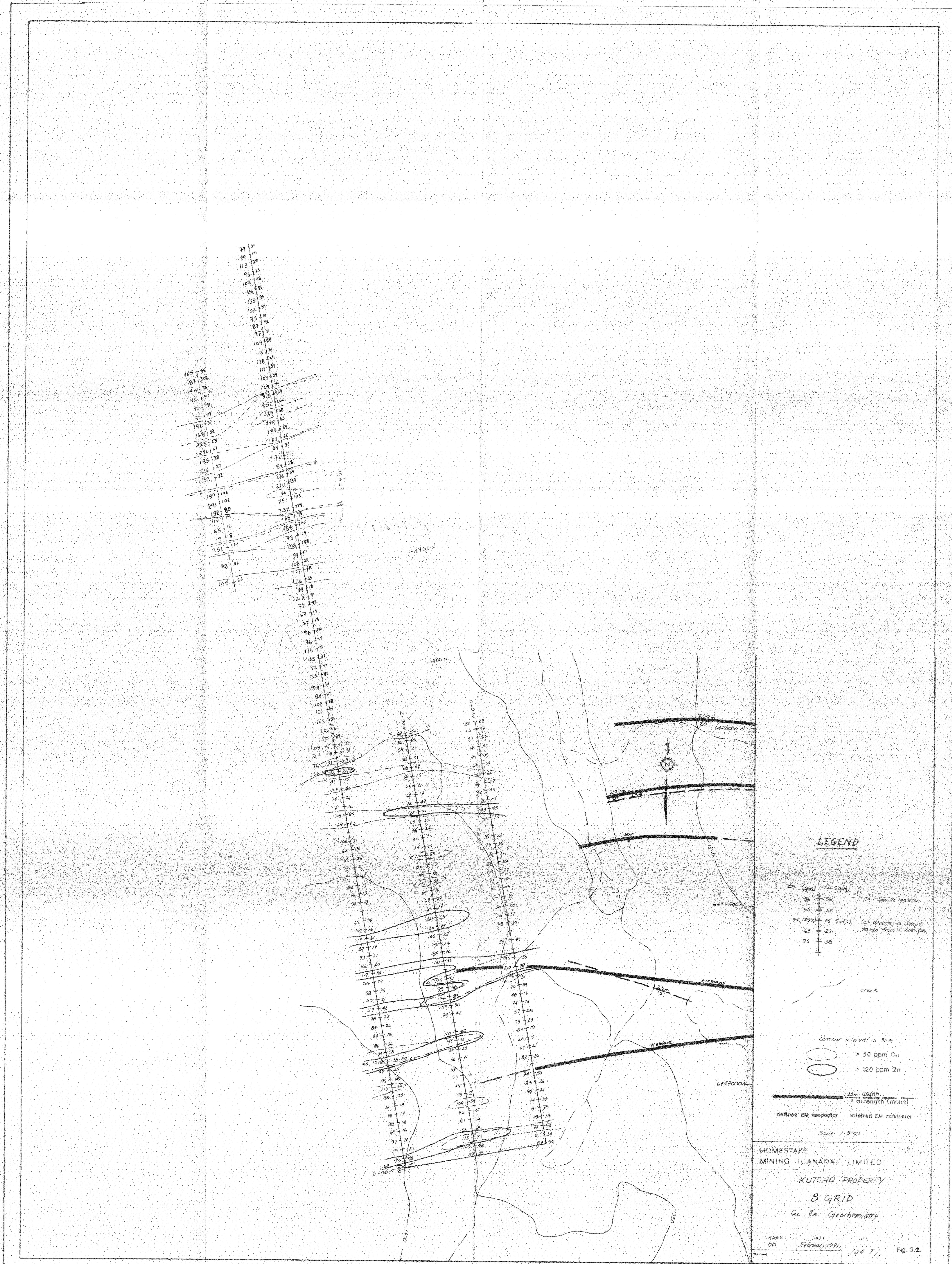
ALTERED SERICITE SCHIST
TRACE OF ALTERED ZONE(?)
565N
350E
400E
18 58 17 79
23 64 25 61
43 110 18 69
100 88 21 78
29 74 18 99
15 125 20 77
20 110 38 78
45 98
ALTERED, PYRITIC ZONE
CNGL
QFXT
LLTF
46 84 35 64
37 81 91 128
48 104 49 74
53 84 19 63
87 66 19 109
26 64 53 65
244 94 21 66
400 N
1000E
1050E
Key
Cu Zn ppm
53 109
HOMESTAKE CANADA LTD.
Kutcho Project
1991 Soil Geochemistry
DRAWN PMH
DATE SEPT /91
NTS 104I/1W
Revised
FIG 3.1


LEGEND
Zn (ppm) Cu (ppm)
86 36
90 55
94, 123(c) 35, 50(c)
63 29
95 38
soil sample location
(c) denotes a sample taken from C horizon
creek
contour interval is 50 m
> 50 ppm Cu
> 120 ppm Zn
25m depth
10 strength (mohs)
defined EM conductor
inferred EM conductor
Scale 1:5000
HOMESTAKE
MINING (CANADA) LIMITED
KUTCHO PROPERTY
B GRID
Cu, Zn Geochemistry
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DATE
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Revised
Fig. 3.2